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An Address
ON
RECENT ADVANCES IN OUR KNOWLEDGE OF SLEEPING SICKNESS.

Delivered before the Society of Tropical Medicine and Hygiene on Oct. 15th, 1909,

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GENTLEMEN,—In the address I have the honour of delivering to-night I have taken as recent work that which has been published in the last 12 months. The advances which I have endeavoured to chronicle are such as have an immediate bearing on the prevention or cure of sleeping sickness. *Sleeping sickness* I have considered as meaning infection in all its stages by *Trypanosoma gambiense*. I have gone beyond my text in suggesting openings for investigation, for it is obvious that such an address as this is of value, if at all, in so far as it indicates not only the ground which has been won, but also the points at which assaults promise most success.

The course of human trypanosomiasis has been commonly divided into stages according to the symptoms. A convenient classification is that of the members of the French Sleeping Sickness Commission, G. Martin, Letœuf, and Roubaud, who have lately published in a large volume the results of two years' work in French Congo. They distinguished *cas en bon état*, persons who have no symptoms whatever of trypanosome infection; *cas suspects*, persons who have symptoms which lead to further investigation; and *cas cliniques*, cases which can be diagnosed from symptoms alone. A more accurate division which they make when it is possible depends on the result of spinal puncture. If evidence of invasion of the subarachnoid space by trypanosomes is thus obtained the patient is at the second or third stage; if not, he is at the first. By this means some of the patients with no symptoms are shown to be actually at the second stage. In the course of this address when I speak of patients in the first stage I mean those whose cerebro-spinal fluid is normal, or believed to be normal.

TRANSMISSION.

Glossina palpalis.—Since the year 1903 we have known that *Glossina palpalis* is the transmitter of human trypanosomiasis, but it is only recently that we have acquired accurate knowledge of the conditions of transmission. As is generally known, Kleine, in his paper published in March of this year, showed that after the fly ingests the trypanosome (in this case *brucei*) an interval of 18 or 20 days occurs, during which it is non-infective, but that after that period it is able to infect susceptible animals. His observations were soon confirmed by Bruce for *T. gambiense*, and there is every probability that some flies remain infective for the rest of their lives. Infection by interrupted feeding or with an interval of a few minutes is, of course possible, but it seems to me that it must be an unusual occurrence, for trypanosomes are as a rule rare in the circulation, and the quantity of blood contained in the proboscis-tube is so minute that the chance of any trypanosomes being contained therein is small. Bruce, however, still believes that the mechanical method is by far the commoner.

Kleine has published figures of what must be regarded as *T. gambiense* in the alimentary tract of flies reared from the pupa, fed at first on animals infected with that trypanosome and afterwards on healthy animals. The forms show a marked differentiation. He has found parasites in the salivary glands as well, but regards their presence there as accidental rather than as bringing tsetse into line with anopheles. He has obtained no evidence of hereditary or germinal infection.

Sir David Bruce and his colleagues have made a very interesting observation: they introduced under the skin of a monkey a tiny drop of fluid from the gut of a fly fed 75 days previously on an animal infected with *T. gambiense* and afterwards on healthy animals. The fluid was swarming with trypanosomes. Eight days later the monkey became infected. We know, therefore, that the trypanosomes ingested by the fly undergo some kind of development, but whether a sexual process occurs or there is merely such a multiplication as is seen in cultures, we are at present ignorant. If it is found that the trypanosomes are not able at all stages to infect the fly as Todd suggests, the hypothesis that a sexual stage occurs would receive indirect support.

Kleine found that of 410 flies which had fed on animals infected with *T. gambiense* 22 became infected, that is, 5 per cent. Since, however, about half of his flies died early in captivity he thought the percentage might be doubled. Whether 10 represents the highest percentage that one would find in nature is, of course, uncertain. Stuhlmann, whose work was done with *Trypanosoma brucei* and *Glossina fusca*, infected about the same percentage. Kleine's flies had drawn their infection from monkeys, which were possibly at different stages of the disease and perhaps not equally infective. Experiments to ascertain if *Golssina morsitans* or other species of *Glossina* is able to convey *T. gambiense* after a similar interval will doubtless be undertaken. Should, however, these be successful there is no reason to anticipate an extension of the disease to *palpalis*-free regions. All the observations made hitherto support the thesis that sleeping sickness does not become endemic except in *palpalis* areas.

There are two other possible means of communicating the disease which have supporters—sexual coitus and blood-sucking insects other than tsetse-flies.

Sexual coitus.—The former hypothesis was brought forward by Koch and Kudicke to explain the occurrence of the disease in women who lived in a *palpalis*-free area and said that they had never left it. Lately, Kudicke has stated that he has had 44 of such female patients under treatment. Hodges, in an unpublished Memorandum, suggested an explanation of such cases. He wrote: "When the epidemic first swept through the lake-shore district the men, whose employments naturally carried them into the greatest danger, usually suffered first. As the men weakened, their occupations, such as canoeing, were in part taken up by the women, who then ran greater risks and more often contracted the disease, while many of their husbands by this time had either died from it or showed obvious symptoms of its presence." Kudicke, by introducing blood from an infected monkey into the vagina of an uninfected monkey, with careful precautions to avoid injury, brought about an infection. This observation, if confirmed, would suggest the possibility, in the case of a wound or ruptured blood-vessel of the penis, of such an occurrence in man. Here may be cited an observation of Manteufel. He found that if he put blood containing trypanosomes on a patch of unshaven sound skin the size of a florin, allowed the blood to dry and covered the patch with collodion, in the greater number of animals infection followed. He suggested as a reason why trypanosomes do not usually pass through the skin or mucous membrane the presence of some antibody. There are no records in favour of Koch's hypothesis from other parts of Africa.

Mosquitoes, &c.—The members of the Sleeping Sickness Commission in French Congo bring forward evidence in favour of the transmission of sleeping sickness by insects other than *Glossina*, especially mosquitoes of the genera *Mansonia* and *Stegomyia*. This view, expressed in March of last year, is repeated and emphasised in their complete report. They regard *G. palpalis* as the principal agent of infection, but think that mosquitoes, and probably other biting insects, are "important auxiliaries," conveying infection in each hut from person to person during the night. They say that in regions where the natives nurse their sick in their own houses the disease spreads with much greater rapidity than in those where they drive them away. They give instances of one member of a family after another becoming infected, and quote cases in which a native was saved from infection, in their belief, by the use of a mosquito net. They found sleeping sickness extremely prevalent in marshy districts where *Mansonia* abounded, and attribute to this method of infection in some instances the annihilation of whole villages.

Examination of the data shows that in nearly all the cases there was a *palpalis* area at hand or within a few miles, and

in some instances where the disease spread with great rapidity it is stated that it was of recent introduction and that the natives were badly nourished, either of which would be efficient cause of a severe epidemic such as lately raged in Busoga. It is easy to understand why the disease spreads more rapidly when the sick man remains in the village, for if he is driven away he is no longer preyed on by *palpalis*, or at least not by the same flies which bite his fellow villagers, and moreover his early death removes the source of infection altogether.

Granted the occurrence of this method of transmission, it is quite impossible to form any conclusion as to its relative importance if the epidemics studied are close to *palpalis* areas. Under these circumstances any such attempt is mere conjecture. Attention should be concentrated on sporadic cases, patients living out of reach of any species of tsetse, and watch must be kept for signs of the disease in inmates of the same hut. I cannot but think that the French observers ascribe to these "auxiliaries" a more important part than they really play. When we consider that imported cases of sleeping sickness never caused epidemics in the New World; that the disease, wherever it is, endemic or epidemic, hugs the shores of *palpalis*-haunted lakes and rivers; that in Uganda, inland from the Victoria Nyanza, out of reach of tsetse flies, no instance of infection from a sporadic case has come to light, we must, I think, demand more strict evidence than the French have given us. There are, however, a few cases recorded where the intervention of *palpalis*, or indeed of any species of *Glossina*, may, for one reason or another, be excluded, and one must admit that in these rare instances the intermediary was some other insect.[1]

I shall not refer here to the experiments on transmission of *T. brucei* carried out by various investigators with mosquitoes and *Stomoxys*. They have, of course, proved the possibility of such an occurrence.

DIAGNOSIS.

The diagnosis cannot, of course, be considered as established unless the trypanosome is found in one or other of the body fluids. As to the course which is best adapted for its discovery there has been some difference of opinion. The members of the French Commission have recently published statistics based on examination of 459 infected persons, and since these examinations have evidently been conducted with much care and the number of cases is large the figures deserve careful study. One of their tables is appended:—

Table from "La Maladie du Sommeil au Congo Français." (Martin, Lebœuf, Roubaud. Paris. 1909.)

—	Examen direct du sang.	Centrifugation du sang.	Sang total.	* Diagnostic ganglionnaire complét.	Ponction lombaire.
Nombre d'examens.	417	100	—	400	167
Resultats positifs.	152	92	—	353	120
Pourcentages.	36·45	92	96·82	88·25	71·85

* By this expression the authors mean that a gland of each group (cervical, axillary, inguinal, &c.) was, if necessary, punctured.

Blood.—The high percentage of success obtained by direct examination of the blood will be at once noted. The films were wet; 7/8 inch cover-slips were used, a mechanical stage, and a magnification of 276 diameters. Ten minutes were allowed for the scrutiny, and a second slide was, as a rule, not examined. The direct blood method was that by which trypanosomes were found in 9 out of 12 Europeans in the Congo who were recognised to be infected. It is worth noting that in some cases where in a film of blood from one hand no trypanosomes were found, in a film from the other they were detected. By centrifugation of blood in 12 cases at the first stage trypanosomes were found in every one.

Glands.—The glands of 400 infected persons were examined in turn. The parasites were found most often in the cervical glands, 73 per cent.; next in the submaxillary, 69 per cent.; and in the axillary, epitrochlear, and inguinal, about 50 per cent. To determine the relative frequency with which trypanosomes were contained in the different groups a gland of each was punctured in 78 patients; the cervical group headed the list, but was run very close by the inguinal—71 per cent. and 66 per cent. Seeing that in 11 per cent. of infected persons trypanosomes could not be found in the glands, the percentage of *puncturable* glands in the patients was studied; in the case of inguinal it was 89, in that of the cervical and submaxillary 87. The authors write: "In our 459 cases of infection we have been unable to do gland puncture 59 times—i.e., in 12·8 per cent.—either because the glands were too small or because they did not exist." This statement is of great importance. It means, of course, that if one relies on gland puncture alone for a diagnosis of human trypanosomiasis at least 12 cases in 100 will be missed because puncture cannot be done. Some of these 12 will have other signs of the disease; others will not. The figures of which the tables are made up are taken from patients examined under the best conditions by all known methods. Let us take another set of figures. Lebœuf, who travelled through part of French Congo studying the disease, made use of gland puncture and direct blood examination only. He examined 552 persons, and trypanosomes were found in the glands of 80. Each group of glands was examined, and 264 punctures were made. In 11 cases in which the glands were puncturable, but he was unable to find trypanosomes in them, they were found in the blood, i.e., in 12 per cent. of the persons recognised as infected. Of these 11, 6 belonged to the *bon état* class—i.e., they were in apparent health. It appears, then, that if gland puncture alone is employed, even though it is carried out with the greatest completeness and care, 12 out of 100 patients will be passed over, and that, even if clinical signs are watched for as well, between 6 and 7 per cent. will escape detection; and this when the examination is made by an expert. I have gone into this part of the subject at some length because there seems to be a general impression that gland enlargement and gland puncture are by themselves an efficient sign and means of diagnosis of sleeping sickness; clearly, it is not the case. Examination of the blood must never be neglected, and it is especially important, for by its aid only can be discovered the very early, and therefore curable, cases. Those whose business it is to weed out the infected natives in a community should study these figures.

Cerebro-spinal fluid.—The results obtained by the French Commission with lumbar puncture in supposed early cases are remarkable; they examined the cerebro-spinal fluid of 19 persons in apparent health with no symptoms whatever, and in five instances they found trypanosomes. They add that no case in which a trace of blood was found in the fluid is included in their statistics. This shows that until one has examined the cerebro-spinal fluid it is impossible to be sure that a patient is at the first stage.

Broden and Rodhain have made a special study of the cerebro-spinal fluid in trypanosomiasis; they regard the presence or absence of trypanosomes as of quite secondary importance, and for this reason collect only 5 cubic centimetres of the fluid. They count the white cells and study their character. A mere increase of small lymphocytes (5 per cubic millimetre being taken as normal) is found in early cases, and Broden and Rodhain think that this increase can be detected before it is possible to find trypanosomes. In later cases there are found also muriform cells and, later still, myelocytes. A histological study is much needed of the central nervous symptoms of persons who have died at an early period of their infection. It may be that changes in the membranes would be detected in quite early cases.

Auto-agglutination of the red blood corpuscles.—Here again Lebœuf, of the French Commission, has added to our knowledge. Among his 552 cases, in 91 of whom trypanosomes were found in the blood or glands, while all of these showed the phenomenon in a marked degree, in 48 others it was present also. Some were almost certainly infected, as could be judged from the symptoms; if lumbar puncture had been done and the blood centrifuged doubtless trypanosomes would have been found in them. Were all the 48 infected? Lebœuf does not commit himself to an opinion. It seems doubtful, however, whether well-marked auto-agglutination ever occurs in African natives apart from an infection by *T. gambiense*. It is said, however, to occur in certain forms

[1] The cases recorded by the French Commission should be studied in the fine work which they have lately published.

of icterus due to hæmolysis (L. Martin and Darré). More attention should be paid to the subject, for auto-agglutination can be detected before recourse is had to the microscope, and, were it shown to be trustworthy, would be a simple and therefore valuable means of diagnosis. In any case we have in auto-agglutination an added reason for the examination of fresh blood films.

Test animals.—Till recently the test animals used for sleeping sickness were not very reliable. Thiroux and D'Anfreville have found that a species of *Cercopithecus* (*C. ruber* or *patas*), widely spread in tropical Africa, is very susceptible to infection by *T. gambiense*. Monkeys inoculated from patients showed infection in from 11 to 18 days. They point out that in the case of inoculation of a monkey, one can use many times the volume of fluid which could be submitted to centrifugation, an obvious advantage. This method has its uses, but, in my opinion, for the original diagnosis should be rarely necessary. Culture on artificial media and complement fixation are diagnostic methods of the future.

Gland palpation.—When one is confronted with the task of estimating the percentage of infection in a community and of weeding out the trypanosome carriers, it is clearly impossible to employ microscopical methods in every case, and it is usual to rely on gland palpation for the separation of the natives who are to be examined more fully. It is admitted that this is not a perfect method. The difficulty is not only that infected persons at an early stage are without enlarged glands, but also that there are other conditions which cause adenitis, and though the glands due to trypanosomiasis have a peculiar character which can be recognised by a skilled observer when it is typically present, this character may be masked. The French Commission found that whereas under treatment some glands diminished in size, others did not, and they concluded that the enlargement of these, though they often contained trypanosomes, was due to other causes. There are, moreover, reasons for believing that in some cases the swelling of the glands is never great. We have no data which would indicate to us the interval between the first appearance of trypanosomes in the blood and the time when the glands become large enough to puncture; it probably varies. Heckenroth mentions the case of a boy who had slight suborbital œdema, and in whose blood trypanosomes were found. Not till a year later did any glands become puncturable. The diminution in volume that occurs at a later stage, whether the result of treatment or not, is well known and must always be borne in mind. The fact that a single injection of an organic arsenical, such as atoxyl, may cause such a retrogression of glands that they cease in a few weeks to be puncturable, must always be present to workers in Africa, for there are now many such persons abroad. As a means of separation of possibly infected from probably uninfected natives, gland palpation will always be of use; but I doubt the value of statistics of gland enlargement when such a factor as the frequency of other conditions causing adenitis is unknown. If some observer, whose lot it is to examine a large number of natives with a view to check the movements of the infected, were to palpate the glands and examine a blood-film (macroscopically) in every instance, controlling the results by the various microscopical methods, and were to publish his figures, he would materially advance our knowledge. Recent work confirms the observations of Dutton and Todd that the larger the glands the more likely are trypanosomes to be found in them.

Heckenroth, who examined many cases of trypanosomiasis in French Congo, considers œdema at least as valuable an early sign as gland enlargement.

The French observers bring out another point of interest. Lebœuf on seven occasions found a *Microfilaria perstans* in a punctured gland. Three of these glands contained trypanosomes also; in the other four patients there was marked glandular enlargement of the cervical group in three cases. No trace of blood accompanied the embryos. It is possible then that the presence of these blood worms may account for some cases of pronounced gland enlargement.

SYMPTOMS.

An excellent clinical study of the disease is published in the French report. Naturally the recent advances in this part of the subject are not numerous.

The French observers have published papers on the nervous manifestations of sleeping sickness—acute meningitis occurring in the second, rarely in the first, stage of the disease, perhaps before a diagnosis has been made, and the so-called cerebral and medullary forms. The cerebral forms they classify as diffused and circumscribed. The former are manifested by mental and meningeal symptoms, subacute in character. There is loss of the intellectual faculties. In the circumscribed forms there is irritation of the cortex leading to convulsions or paralysis. Both forms are incurable. The medullary or spinal forms are characterised by paraplegia, with some loss of sensation and bladder troubles. These symptoms progress slowly and respond well to treatment. Hodges, in a report about to be published, remarks on the increase of cerebral symptoms in Uganda. "Paralysis, paresis, and epileptiform convulsions," he writes, "which among untreated cases occurred in a small percentage, are now commonly met with, and are often the precursors of sudden death, which itself was very exceptional before the use of organic arsenic. Sudden or rapid death, in fact, generally preceded by cerebral symptoms, would appear now to be almost the rule among such cases as have received full courses of organic arsenic, while the prolonged lethargic stage which almost invariably marked the end of untreated cases is either scarcely noticeable or absent." I am unable to suggest any reason for this.

Such symptoms as deep hyperæsthesia (Kérandel's sign) and iritis or cyclitis do not come within my period.

TREATMENT.

Many papers on this branch of my subject have been published in the last 12 months. The number of new drugs employed has not been large; it includes *arsacetin* (the acetyl derivative of arsanilic acid), *arsenophenylglycin*, and *p. aminophenylstibinic* acid, which corresponds to arsanilic acid, with antimony substituted for arsenic in the molecule. Experience has been gained in the use of the older drugs, such as atoxyl or soamin, with or without mercury, orpiment, tartar emetic, &c.

Arsanilate (atoxyl or soamin).—It is certain that these substances are best administered by hypodermic injection. Broden and Rodhain, who gave atoxyl by the mouth to 79 patients, concluded that the method was suited only for persons with a normal cerebro-spinal fluid, and that in any case if improvement was not rapid injections should be given. From the evidence we have it seems that nothing is gained by injection of the drug into the spinal canal, and I believe I am right in saying that this is not an established procedure in any disease.

In the great majority of cases arsanilate causes the parasites to disappear promptly from the blood and glands and not to reappear there while treatment lasts; there are however, exceptions. L. Martin and Darré had two European patients in whom the trypanosomes were insensitive to atoxyl; during its administration parasites were to be found in their blood and circinate erythema appeared; their 18 other patients reacted well to the drug. Ayres Kopke reports a case, that of a Portuguese, in whose blood trypanosomes persisted in spite of injections of atoxyl and later arsacetin. I know of a fourth case in a European (unpublished); another is mentioned by Ehrlich. Here, then, are five European cases in which trypanosomes persisted in the blood in spite of atoxyl injections, and the comparative lack of record of such an occurrence in natives is probably due to the fact that they are not so closely studied. What is the nature of this insensitiveness of the parasites? Is the resistance specific? Ehrlich and Kopke had no doubt that it was in their cases. Fortunately, such resistance is not common, and there is no evidence that a chemo-resistant strain keeps its property when transferred by an insect to a fresh individual. It is probable that serum-resistant strains—that is, strains resistant to antibodies—are of much greater importance in the treatment of man than chemo-resistant strains. We are on the threshold of our knowledge of serum resistance.

Cases of reappearance of parasites in the glands are rare.

Have any cures resulted from the use of atoxyl alone? It is still uncertain. Broden and Rodhain are convinced that atoxyl can cure a large number of patients at the first stage. The members of the French Commission express themselves in the same sense. Two things must, however, be borne in mind: 1. The interval during which a patient who afterwards relapses may remain well is not yet known; G. Martin and Lebœuf record a relapse after 15 months' perfect health; trypanosomes were then found in the cerebro-spinal fluid; this was a case treated at the first stage. And Nattan-Larrier

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reports the cases of three Europeans who were not treated at all; one remained well for 17 months, the second for two years, and the third for three years, after which they relapsed. It is not stated whether they were examined for trypanosomes during that period. 2. We must remember that the cases of apparent cure which have been longest under observation were treated before the atoxyl era. Hodges, in the report alluded to above, writes: "The number of early cases which have maintained their improvement has steadily decreased, and the number of cases likely to be permanently cured is now inconsiderable." If there are any persons who have made a recovery I would be inclined to attribute the happy event to their power of resistance rather than to the doses of atoxyl which may have been administered.

The arsanilates, and especially atoxyl, are not without their dangers; there are many recorded cases of blindness following the use of atoxyl. Much attention has lately been paid to this subject, but it is not yet clear whether the lesion is central or in the retina. The first symptom is contraction of the fields of vision; the fields, therefore, should be tested from time to time in all patients who are taking arsanilates. It is possible that persons infected with *Trypanosoma gambiense* are predisposed to such lesions; they have not been noticed in early cases. In Uganda all the victims seem to have been at a fairly advanced stage, and Broden and Rodhain found that of their patients who became blind all had either typical symptoms of sleeping sickness or an altered cerebro-spinal fluid; consequently they recommend a smaller dose for patients at the later stage than for the earlier cases. It seems that loss of vision is less frequent, if it occurs at all, after the use of soamin, which has, of course, a chemical formula identical with atoxyl.

How long should a course of arsanilate last? This is a difficult question to answer. Broden and Rodhain are doubtful if it is of any use to resume or continue its employment after a relapse. It must be remembered that to detect a relapse it is not sufficient to examine the blood; the cerebro-spinal fluid must be examined from time to time. There are reasons for believing that, apart from the possible development of resistance by the parasites, the prolongation of a course beyond a certain limit, not at present defined, leads to supersensitiveness on the part of the patient. In Uganda, at any rate, the administration of organic arsenicals for several months in succession has been abandoned.

When the arsanilates came into use for sleeping sickness it was hoped that they would act by killing off the trypanosomes in the body—that is to say, as sterilising agents—as they appear to do in experiments on small animals. This hope has been disappointed, probably because we are unable to give the drug in such doses as will cause the requisite concentration of the trypanocidal substance. Professor Benjamin Moore considers that the size of man, as in the case of large animals, is against his cure; he shows that the dose which can be given depends on the area of body surface, and that therefore small animals have an advantage. He believes also that the dosage depends on the area of cells lining the intestine, for these take up the arsanilate, and if the drug is present in too great concentration they are killed.

Antimony.—Tartar emetic or the corresponding sodium salt is now given intravenously to avoid the pain and reaction caused by injection into the tissues. This treatment alone is not effective for any length of time, possibly because of the rapid elimination of the drug. G. Martin and Lebœuf and Ringenbach find that though it drives trypanosomes promptly from the blood they may be present in the cerebro-spinal fluid after many injections. Injections of finely divided metallic antimony in an oily emulsion, the so-called antimony cream, are so painful that they drive away the patient as well as the trypanosomes.

There is now, I think, a consensus of opinion that two or more drugs should be employed in combination. For this course there are three reasons: 1. Experiments on animals have clearly demonstrated the advantage. 2. One can give a smaller, and therefore less dangerous, dose of each drug than would otherwise be the case. 3. The researches of Ehrlich and others show that substances of different chemical groups combine with different parts of the protozoal cell. It is interesting to note that a drug which by itself has no action may become of value when it is associated with a powerful trypanocide; examples are mercury, and perhaps picric acid.

Arsanilate + mercury.—Many clinicians have tried this combination. Hodges and Broden, both of whom have had much experience, consider that it has no advantage over arsanilate alone. Van Someren, who injects soamin and perchloride of mercury simultaneously, thinks that the patients so treated do rather better than those who get soamin only. No one, however, speaks very favourably of the combination.

Arsanilate + orpiment is now being largely given. We are not yet able to form an idea of the value of this combination. The use of an inorganic arsenical has two recommendations: (1) some of the early cases which have made an apparent recovery were thus treated; and (2) Ehrlich's work tends to show that trypanosomes never become resistant to arsenic in this form.

Arsanilate + tartar emetic.—Broden and Rodhain, as well as the members of the French Commission, speak well of this combination, which at the present moment seems to be more effective than any other. The arsanilate is injected under the skin once a week, and antimony salt into a vein once or twice a week, or in series. Thiroux finds that unpleasant symptoms after antimonial injection can be prevented by the previous administration of caffeine.

To come to the new drugs—*arsacetin* has been used in 134 cases by Eckard in German East Africa. He finds that therapeutically it equals atoxyl, over which it has the advantage that it is much more stable. Unfortunately, blindness occurs after its use; it is noted in three cases.

P. aminophenylstibinic acid has been given once with good effect (Kopke). In injections it is too painful for general employment, but the fact that it is the antimony homologue of arsanilate makes its use promising as well as of interest.

Arsenophenylglycin is the most promising of all the organic arsenicals. We know that doses of one gramme are well borne by man, and that trypanosomes are banished from the blood and glands. More at present cannot be said. The advantage of this substance is that while the arsanilates and their derivatives have to undergo some change in the tissues—reduction, in Ehrlich's opinion—before they become trypanocidal, arsenophenylglycin is already reduced, hence its toxicity is more constant for any given species of animal, for it does not depend on the varying amount of change effected by the animal tissues.

Ehrlich has shown that to get a sterilising effect it is not necessary for all the parasites to be killed; it is sufficient if the drug so acts on that part of the trypanosome which is concerned with multiplication that the formation of new individuals ceases. He believes that arsenophenylglycin acts in this way. Here we have perhaps another explanation of the undoubted advantage of giving two or more drugs in association. One attacks the nuclear or chromidial apparatus, another the protoplasm, or, as Ehrlich puts it, they combine with receptors situated in these different parts of the cell. Ehrlich himself says that arsenophenylglycin acts much more powerfully on infected guinea-pigs if another drug (tryparosan in this case) is associated with it. Since arsenophenylglycin is likely to be soon in general use, I will echo the warning given by Ehrlich against the use of this substance, *to begin with*, on patients who have relapsed after other treatment. He points out that such cases are very difficult to cure, so that the reputation of a new remedy may be blasted because it is expected to perform an impossible task. Any new drug, when once its claim to trial in human therapeutics has been established by a series of successes in animal infections, should be tested on untreated selected cases at an early stage of the disease; later, of course, the relapsed or advanced cases may share the benefit.

Dyes.—Treatment by dyes has not proved of much service in the human subject, but we may yet find one which is useful. I do not think parafuchsin in combination with the more powerful trypanocides has had an efficient trial, but tryparosan (Ehrlich) promises still better results because it is more effective in animals, and tends to attenuate the virulence of the trypanosomes.

It is probable that the trypanocides, even when they do not sterilise, increase the resisting power of the organism. They may assist in the production of immunity, as has been shown by animal experiment.

Serum.—Dr. Andrew Balfour, acting on the idea that the

cerebro-spinal fluid is lacking in trypanocidal substances, has suggested the introduction into the spinal canal of the patient's own serum, perhaps after a course of chemical treatment. The idea and the suggestion had been put forward, unknown to Balfour, by Thiroux two years earlier. We have no record of the adoption of this plan.

General measures.—One factor in treatment has perhaps been imperfectly realised—that is, the importance of increasing the resistance of the patient, especially by a generous diet. The members of the French Commission especially have emphasised this, and it is common knowledge that in times of scarcity or famine sleeping sickness becomes epidemic in places where it was previously present in an unobtrusive form. In Busoga, a province in Uganda in which the natives reached the segregation camp in half-starved condition, the results of treatment were much less favourable than in other camps. Bödeker, in British East Africa, has treated a few cases with cod-liver oil in conjunction with soamin or atoxyl, and has reported favourably on them. Such treatment seems to me very reasonable, and I think cod-liver oil should be tried in a large series of cases. Dr. C. W. Daniels has recently called attention to the importance of increasing the resistance of the host in the protozoal as in the bacterial diseases. Similarly one must treat any condition which tends to drain the vitality of one's patient—e.g., ankylostomiasis.

PROGNOSIS.

It is at present impossible to set a term to the existence of a patient infected with *T. gambiense*, but we are able to gauge to some extent his power of reacting to treatment and whether there is any prospect of cure. Though patients at the first stage, treated or even untreated, may recover, it is extremely doubtful whether any person has ever recovered in whose cerebro-spinal fluid trypanosomes have been demonstrated either by their presence or by the change they have brought about in the constitution of the fluid. Lumbar puncture, then, is essential if we are to give any sort of guess as to the future. If trypanosomes are found, or if there are certain cell changes in the cerebro-spinal fluid, one can say this man may live for years but he is not likely to recover. Similarly the result of treatment can be checked by lumbar puncture. The patient may be improved in his general condition and be apparently well, but the result of the puncture shows that the disease is progressing towards its fatal termination. Broden and Rodhain think that treatment should be continued as long as the cerebro-spinal fluid is abnormal; but that this is not a sure guide is shown by the observations of members of the French Commission who found that some cases at quite a late stage had a cerebro-spinal fluid which contained no trypanosomes and few cells. It is worth noting that the members of the French Commission were unable to find trypanosomes in the cerebro-spinal fluid of 26 out of 108 advanced cases, i.e., 24 per cent. They do not say if lumbar puncture was repeated in any instance. Lumbar puncture has unfortunately three disadvantages: it is disliked by patients; the trypanosomes come and go in the fluid, so that unless the typical cell changes are present one negative result is inconclusive; and there may be a risk of introducing trypanosomes into the subarachnoid space. Ayres Kopke for this reason in a case in which trypanosomes were very numerous in the blood did not venture to puncture the membranes.

As to the value of *auto-agglutination* for prognosis we are in want of data. In patients who have made an apparent recovery auto-agglutination has become much less marked without wholly disappearing.

Thiroux and D'Anfreville have found *Cercopithecus patas* a valuable test animal when they wished to know if trypanosomes were present or not in a patient who had undergone a course of treatment. They inject 20–40 cubic centimetres of defibrinated blood into the monkey, and again if necessary after a month; if both inoculations are negative lumbar puncture is done and the cerebro-spinal fluid injected into the monkey. Here again, for decisive information one must do lumbar puncture. If this method proves to be as reliable as its authors believe it will be very useful in tropical Africa, for the species *ruber* or *patas* is widely spread.

PROPHYLAXIS.

In the last 12 months few fresh preventive measures have been proposed. It is probable that when we know more of *Glossina palpalis*, its life history, breeding grounds, and natural enemies, we shall be able to devise more effective measures for its suppression or extermination. At present we have in the main two alternatives: to avoid the fly or to clear the scrub which shelters it.

Citronella grass as a tsetsefuge has lost its reputation. From various quarters comes the report that the flies do not mind it at all, and one observer doubts if it gives off any smell except when it is crushed. The members of the French Commission insist on the necessity for the use of a mosquito net, and if their belief that mosquitoes are important auxiliaries of *palpalis* finds confirmation, protection from these, and all biting insects, becomes absolutely necessary. They think also that all Europeans who serve in infected areas should be periodically examined, and seeing that a trypanosome infection at the beginning may be taken for malaria or some other fever this seems a wise precaution.

Roubaud, as a means of dealing with *G. palpalis*, recommends *partial* clearing or thinning of the vegetation which shelters the fly. It is generally recognised that complete clearing is not essential, that clean stemmed trees may be left if all the undergrowth is removed; but, if one may judge from photographs, Roubaud leaves much vegetation standing besides trees. His aim is to let the sun's rays reach the soil. The amount of clearing or thinning needed at any spot can always be determined by experiment, and I think it probable in some instances more is done than is necessary. On the only occasion on which I had the opportunity of superintending such work, the flies disappeared when the vegetation on half the area marked out had been cut down. This is worth remembering, for it is costly to fight jungle on a large scale.

We have learnt, I think, that the preventive measures to be adopted are not the same for all parts of tropical Africa—that is to say, in one region, as Uganda or Rhodesia, it is found possible, and therefore best, to remove all natives from *palpalis* areas and to clear the vegetation in the neighbourhood of fords and watering places; in another, as Togoland, neither of these things can be done to a profitable extent, and it is sought to collect all the infected persons into fly-free camps; in a third it may be that a system of inspection posts is of value. Even if our preventive measures fail there are reasons for thinking that nature is slowly working—in Uganda, for instance—to produce a state of toleration in the tissues of the persons infected. How this comes about, whether by an attenuation of the virulence of the trypanosome, by the weeding out of less resistant individuals, or by a combination of these factors, we do not know. To give one instance. Baker in Uganda examined in January of this year a native in whose case there was documentary evidence that trypanosomes were found in the blood in 1905. Baker found trypanosomes in his glands. This man had had no treatment and had served in the King's African Rifles for three and a half years without having ever been off duty for sickness. It is worth noting that the French Commission found marked differences in virulence of *T. gambiense* in man.

I have given you but a bald account of the recent advances in our knowledge of sleeping sickness. The extent of ground to be covered has prevented my straying into attractive by-paths. I think, however, that I have touched sufficient points for discussion.

UNIVERSITY OF LONDON.—The schools of the University and Convocation have been notified that the University Appointments Board has now been constituted. The terms of reference to the board are "to assist graduates and students of the University in obtaining appointments, and to coördinate and supplement the work done by the schools and institutions of the University with this object." The board hopes that members of Convocation and of the staff present and past of the schools of the University and others who are interested in its progress may be able to assist in furthering the work of the board by bringing its objects before the notice of graduates. The board desires to encourage a selection of University men for all posts where the possession of a University training on scientific methods is an advantage. Its object is to assist graduates to find employment and to assist employers to find, in the University ranks, suitable candidates for vacancies.

The Wightman Lecture

ON

CONGENITAL HEART AFFECTIONS, ESPECIALLY IN RELATION TO THE DIAGNOSIS OF THE VARIOUS MALFORMATIONS.

Delivered before the Section for the Study of Disease in Children of the Royal Society of Medicine,

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GENTLEMEN,—In acknowledging the honour that you have conferred upon me by inviting me to deliver the Wightman Lecture, I must confess that the acceptance of this distinction proved far easier than the selection of a suitable subject for the occasion.

The coincidence of congenital malformations of the heart with malformations in other regions of the body is a matter of everyday experience. Heart malformations are not always accompanied by other congenital bodily defects, but they are sometimes found in association with such diverse structural faults as hare-lip, cleft palate, ill-developed teeth, supernumerary auricles and supernumerary nipples, polydactylism, syndactylism, webbed fingers, steeple-skull, defects in the abdominal wall, herniæ, ill-developed and absent rib cartilages, undescended testis, atresia of the anus and rectum, post-anal dimple, congenital opacity of the cornea, coloboma iris, congenital defects of the orbits, congenital ptosis, not to mention many other congenital irregularities of development which are obvious to the naked eye—cretinism, for instance—which sometimes bear them company.

Since heart malformations have been shown to be a family complaint in some instances, it must be admitted that inherited as well as acquired defects in the sperm and germ cells of the parents are of some importance in the production of malformations of the heart, as in other regions, for erratic tendencies to produce deformities when once acquired are handed down from parents to children. Inquiry has been directed to the state of the mother's health, both bodily and mental, during the pregnancy to serve as an explanation for the production of congenital cardiac defects. The heart is perfectly formed, though in miniature, in seven weeks' time from the date of conception, but various examples of congenital heart disease have been recorded by J. Lewis Smith and others, following upon frights and so on during the last two or three months of pregnancy, so it is obvious that these psychical disturbances cannot possibly have had any effect upon the fœtal heart.

Several examples of fœtal endocarditis have been shown to the Society for the Study of Disease in Children or have been spoken of at its meetings. These include six cases, while a few others have been recorded by Planchu, Gardère, and André Moussous. Fœtal heart murmurs have been recorded by various writers.

It is only in a very small proportion of the cases of congenital defect that endocarditis, when it is limited to the valves, can be viewed as the cause of the disease, and such arise after the heart has been completed. The bulk of the cases of congenital malformation of the heart appear to be due to developmental errors when seen by the light of modern research on cardiac development.

Morbus cæruleus and congenital malformations of the heart have been looked upon as synonyms, but without reason, for children with severe congenital morbus cordis are frequently not blue, even when excited or crying. Many verified cases of congenital morbus cordis have been recorded where cyanosis was not a symptom during life. Some children with congenital morbus cordis are fresh-coloured. Others are strikingly pale. In some the lips are dark crimson, perhaps inclined to blueness rather than redness, or to turn lilac on crying. Or the complexion may be quite good and only the fingers dusky and cold-looking. The majority, however, are cyanosed more or less, and all gradations of cyanosis may be noticed, from that of a dark rubicund face with similar coloured ears and reddened finger- and toe-tips, or a state of rather dusky-blue lips and cheeks and tongue, and a similar condition of the extremities, to one where the face is plum-coloured, the conjunctivæ suffused, the buccal mucous membrane and tongue the colour of a slate, and the body generally dusky. In the majority of those who are blue the cyanosis dates from birth, but in others the children show no signs of blueness until after an attack of one of the exanthems, or following bronchitis or broncho-pneumonia, with or without whooping-cough.

By far the most common malformations of the heart in association with cyanosis are those cases where the pulmonary artery or the conus is either absent, rudimentary, or constricted. Next in frequency in the list of malformations, though only to about one-seventh of their number, is transposition of the pulmonary artery and aorta. Apart from these mal-developments, which form the bulk of congenital cardiac anomalies, the malformations which give rise to cyanosis are numerous and various.

Various views have been and are still held as to the causation of the cyanosis. In many cases the explanation is suggested, not that the lungs cannot oxygenate properly, but that they are prevented from dealing with a sufficient proportion of the total quantity of venous blood throughout the body by reason of various defects in the pulmonary region, perhaps combined with weakness of the heart muscle. Cyanosis appears to depend in some cases not upon defective aëration from defects in the lungs, but to be due to the conformation of the heart, which by reason of faulty construction and physical weakness is placed at a mechanical disadvantage, and is not adapted to deliver a sufficient quantity of venous blood to the lungs to be aërated. But this will not explain all cases, for in some the lungs are not healthy and display considerable microscopical alterations. So wide and so tortuous were the thickened lung capillaries in the case of atresia of the pulmonary artery I examined that those in the alveoli admitted six or more red corpuscles abreast. Changes such as these, permeating as they do the whole of the lung structure, are not conducive to proper aëration. It would appear, then, that diffuse and not localised structural alterations of the lung tissues are favourable to the production of cyanosis.

Here, then, are two factors in operation: the difficulty of getting the blood to the lungs to be aërated, and the difficulty of aërating the blood when it arrives there should it so happen that the lungs are not in a position to undertake the operation by reason of their structural defects.

Clubbing of the fingers and toes in congenital heart disease, the so-called Hippocratic fingers, depends almost entirely on congestive swelling and thickening of the soft parts of the terminal phalanges. The connective tissue is increased and the capillaries are enlarged and increased in number. The finger-tips are broadened and the nails are cyanosed, a different appearance from that shown in chronic osteo-arthropathy, where the nail is domed like a watch-glass, curls over the finger-tip, and bears a striking resemblance to a parrot's beak, and is combined with osteo-periostitis of the terminal phalanx. The finger looks like a drumstick and the nail is pink coloured.

There appear to be two varieties of clubbed fingers; in one there is osteo-periostitis of the terminal phalanges, but in the other this has not yet been demonstrated. Whether there are really two varieties of clubbed fingers or whether the conditions are different stages of the same process has not yet been settled. Common as is this clubbing of the fingers and toes in congenital heart disease, nevertheless it is a feature of this disease which very often is wanting. It is in pulmonary atresia and stenosis that clubbing most commonly arises, and it is in these conditions that congestion is most frequently observed.

Ophthalmoscopic examination in cases of marked congestion reveals tortuous retinal blood-vessels of which the veins are very large. The blood in the arteries looks decidedly venous, though they are not quite so dark-coloured as the veins. The red reflex, which is of cyanosed appearance, often appears to start from the physiological pit, and the number of vessels on the face of the disc appears to be greatly increased. In children where the cyanosis amounts to but little more than a ruddy bucolic appearance, a want of the usual colour contrast between the arteries and veins is quite noticeable. The retinal blood-vessels early display evidences of congestion by enlargement and tortuosity of both arteries and veins. If there be considerable cyanosis retinæ, as sometimes is the case, without the associated appearance

of curly retinal vessels, such an ophthalmoscopic finding, although not proof that there is no narrowing of the pulmonary region, nevertheless suggests that the pulmonary tract is either not involved or that right-sided muscular compensation is sufficient to overcome the obstruction.

Blood changes, such as polycythæmia, macrocythæmia, and increased viscosity along with a by no means invariable increase in the hæmoglobin, are not uncommon. In one blue child under my care, aged two and a half years, with clubbed fingers and toes, who had been blue since birth, there was a blood-count of 7,880,000 per cubic millimetre, and the hæmoglobin was 122 per cent. That is the largest number of red cells that I have met with in congenital heart disease. Many of the children under my care with polycythæmia have shown a deficiency in the hæmoglobin rather than an increase. In a blue infant, aged one year, with clubbed fingers and toes and lips, and finger- and toe-tips of purple hue, the blood-count amounted to 5,400,000 red cells per cubic millimetre, with a hæmoglobin percentage of 55 only.

Congenital heart murmurs are of various characters. They may be heard as harsh, roaring, churning, growling, sawing, twanging, rushing, or rasping noises. Musical bruits are not common in my experience. If murmurs of such character be heard in a child under three years of age, and if they be conducted over wide areas, the presumption is strong that the affection is of congenital origin. Soft, low, very faint bruits are sometimes present. Murmurs are usually systolic, occasionally pre-systolic or diastolic, and there is that peculiar rumbling murmur carried through the systole and diastole, which points to a patent ductus arteriosus or a communication between the pulmonary artery and the aorta. Sometimes the bruits become inaudible shortly before death or during a paroxysm of cyanosis, and I have noticed a loud murmur almost to disappear under the influence of an anæsthetic. A murmur may be detected at one auscultation, and cannot be heard at the next, and the causes for this temporary disappearance are not quite clear. Murmurs are also influenced by posture and by respiration. In regard to conduction, in some instances systolic bruits may be traced along the arteries over the brachials as far as the bends of the elbows, and also be heard in the thighs along the course of the femorals. They can not only be followed up the arteries of the neck, but exceptionally can be heard by applying the ear to the vertex. In only a small proportion of the cases are murmurs absent. In my series this occurred in 7 per cent.

Thrills are not infrequent; they are usually systolic, occasionally diastolic, or even pre-systolic. These purring tremors may be localised to the site at which they are produced or be of wide conduction. Further, the site of greatest intensity by no means necessarily corresponds to the seat of production. A systolic thrill of greatest intensity at the second left interspace and conducted towards the corresponding clavicle is, however, pathognomonic of patent ductus arteriosus. A systolic thrill may be felt at the episternal notch over the aorta and be conducted into the carotids and subclavians.

Defects in the interventricular septum are the most common of all cardiac malformations. They are associated mostly with stenosis and atresia of the pulmonary artery, transposition of the great vessels, and occlusion of the tricuspid orifice. The combination of pulmonary stenosis, deviation of the aorta to the right, and patent septum ventriculorum is one of the most usual forms of congenital morbus cordis. The commonest situation for perforate septum ventriculorum is directly beneath the aortic valves and just in front of the undefended space. In front of it lies the fleshy part of the septum and behind it the membranous. On the right side of the heart this opening will be found beneath the septal and anterior cusps of the tricuspid valve. It is rare for a perforation to be found in the anterior fleshy part. The septum may be absent, as in the cor triloculare, or the septum may be represented by a falciform ridge springing from the lower and anterior wall of the ventricle, or irregular defects may arise in it.

Changes in the heart muscle do not necessarily follow septal defects. In some cases, however, hypertrophy and dilatation of both ventricles are seen, and this is especially likely to occur on the right side.

Defects in the septum do not always produce murmurs, but when bruits are present the following characteristics have been noticed by me in the pure cases which have come under my observation. In a child, aged two years, there was a loud rough systolic bruit audible all over the chest, the point of maximum intensity being over the pulmonary area. It was not audible in the big vessels of the neck; the second pulmonary sound was accentuated. In an infant, aged eight months, the systolic bruit was heard loudest at the junction of the xiphoid with the gladiolus on the left, and it was conducted a short way into the axilla. A faint systolic bruit was heard only occasionally at the left base. It was not transmitted to the neck vessels. The second pulmonary sound was accentuated. In an infant, aged three months, there was a loud systolic murmur at the left base, which was traceable as far as the left mid-axillary line. The second sounds were normal, and in this infant the heart was not enlarged. In the oldest child there was a marked systolic thrill all over the cardiac area, and in the child aged eight months a systolic thrill was occasionally felt at the left base, but this might have been due to the patent ductus arteriosus, and in the infant aged three months it was absent.

It is not possible to lay down hard-and-fast rules as to the area of maximum intensity of the systolic bruit occasioned by patent septum ventriculorum. It is located on the left side of the sternum on the costal cartilages or interspaces, somewhere between the second left interspace and the junction of the seventh costal cartilage with the sternum, sometimes between the nipple and the left margin of the sternum, and rarely at the apex. The systolic thrill which occasionally accompanies it is not confined to any particular cardiac area; it is sometimes to be felt in the episternal notch, sometimes at the epigastrium. An important feature in the diagnosis of patent septum ventriculorum is the detection at the apex of a healthy first cardiac sound audible through the bruit and the tactile sensation accompanying it of the mitral valvular snap. The second pulmonary sound at the left base is accentuated if the pressure of the right ventricle be increased, and exceeding purity of this sound is important and suggestive.

Defects in the interauricular septum.—A patent foramen ovale is so frequently found post mortem that it can hardly be classed with other congenital abnormalities, and Fisher states that slight patency of this foramen can be found in one quarter of necropsies on adults. A widely open foramen, however, must be looked upon as an anomaly. It occurs either alone uncommonly, or frequently in association with other interauricular septal defects. Defects in the lower part of the interauricular septum are rare, and are explained by failure of the septum primum to descend and unite with the endocardial cushion between the ventricles.

Open foramen ovale alone and along with other interauricular septal defects occurs in association with stenosis and atresia of the pulmonary artery, transposition of the great vessels, and occlusion of the tricuspid orifice. Defects in the interauricular septum happen nearly as frequently as defects in the interventricular septum. Very occasionally they are the *sole* lesions, and very slightly exceed in number as solitary lesions the similar conditions found at the interventricular partition.

Patency of the foramen ovale and defects in the interauricular septum are often diagnosed and seldom discovered, and for the reason that they do not often give rise to characteristic bruits—indeed, murmurs are but seldom produced by these abnormalities. Frequently cyanosis is not a symptom, though cyanosis with paroxysmal increase may be a marked feature. Gross interauricular septal defects may be carried through life without causing any inconvenience or giving rise to any suspicion as to their presence.

Septal defects become of consequence if the auricles act unequally, and if there arises an overflow of blood into the right auricle, which produces stasis in the systemic veins. A reversal of the flow into the left auricle may bring about the same conditions by throwing extra pressure on the pulmonary artery and so on the right auricle. A point of clinical interest about defects in the interauricular septum, as in the interventricular septum, is that septic and other particles may be carried from the venous system direct to the arteries of the brain and body.

Stenosis of the pulmonary region is one of the most common of all the cardiac malformations, and in relation to atresia it occurs nearly three times as frequently. In the large majority of cases of stenosis the interventricular septum is patent. When this septum is closed the foramen ovale is

often widely open. Both of these fœtal passages may remain open. In rare instances both the fœtal passages are closed. In atresia the interventricular septum is more frequently found closed than in stenosis. Of 13 cases, six of stenosis and seven of atresia, I found the ductus arteriosus closed in all the cases of stenosis and patent in all the cases of atresia except one, and in that case the lungs were supplied by a large branch from the left innominate artery and not by the ductus arteriosus as is usual. If the ductus be closed in atresia the septum will be found defective, or the septum and foramen ovale will be open, and vary rarely the foramen ovale only. When there is a defective interventricular septum the aorta, which will then be found large, is frequently transposed to the right, and this irregularity occurs more often in atresia than in stenosis. The aorta may arise from both ventricles over the defective septum, or be thrust more to the right and take origin from the right ventricle only. The stenosis may involve the whole pulmonary region, there being a hypoplasia of the pulmonary artery and its branches. In some cases the stenosis is valvular in character. It may consist of thickened nodular valve-cusps associated with a normal pulmonary artery and normal interventricular septum.

In some cases stenosis has evidently originated later in intra-uterine life, after the closure of the septum ventriculorum. In the other and the more numerous variety the forms that are met with suggest a developmental origin and a secondary endocarditis infection implanted on a rudimentary pulmonary tract.

In developmental cases the pulmonary artery is usually thin-walled and vein-like. In the other variety the pulmonary artery may be thin-walled also, but it is often either dilated or normal. In stenosis hypertrophy and dilatation of the right auricle and ventricle are common, and if the aorta be deviated to the right these hypertrophies always arise, and this vessel will be found large and thick-walled. The combination of pulmonary stenosis, deviation of the aorta to the right and patent septum ventriculorum, is the most usual of all congenital abnormalities.

In *atresia* the obliteration occurs at the conus, or the valve, or the pulmonary artery may be entirely absent.

Regarding the detection of right-sided hypertrophy of the heart in pulmonary stenosis and atresia a small amount of right-sided enlargement is rather apt to be overlooked if reliance be placed solely on the superficial area of cardiac dulness. Deep percussion should always be resorted to in addition, and it is well if possible to verify the result by X ray examination. The lung on the right side of the heart covers a moderate enlargement of the right auricle and ventricle and so masks the signs.

The *bruit* of uncomplicated pulmonary stenosis is systolic in time, and is best heard over the second left interspace close to the sternum or on the third costal cartilage. It is usually conducted over the left front of the chest and crosses the sternum, being heard slightly to the right. It is carried up towards the left clavicle. It usually ends before the axillary fold. There appears to be some doubt as to whether the bruit can be heard in the back in uncomplicated cases. It certainly can—I have post-mortem evidence as to that. It can be heard all over the front of the chest and all over the back, the left side more than the right, and also in the left axilla. It is not heard in the carotids.

Should pulmonary stenosis be associated with a patent septum ventriculorum, as so frequently happens, a systolic bruit will probably be heard in the carotids. If that be heard the suggestion is that pulmonary stenosis is combined with this septal defect, as I believe I was the first to point out some years ago. It is not necessary for the aorta to arise immediately over the septal defect to conduct a bruit into the neck vessels. The prospect of life varies in these cases according to the defect. In atresia with a closed septum the children die in infancy. If the septum be patent the child may live a few years in place of a few months. In stenosis with a closed septum middle age may be reached, but with a patent septum adult life is the limit.

Ductus arteriosus.—The average diameter of the ductus arteriosus at birth, as ascertained by post-mortem examination, is stated by Thérémin to be 4·8 millimetres, and according to Klotz this measurement is no indication of its functional capacity during life, for he states, on experimental evidence, that the size of this vessel when in action is equal to the capacity of the pulmonary artery itself. Patency of the ductus arteriosus as an isolated lesion is rare, very few cases being recorded in the literature, but as an associate of other congenital abnormalities of the heart it is quite common. The patent duct may be cylindrical or conical, with the base of the cone on the aortic side, or globular. The lumen of the vessel in the cases that have come to autopsy has varied in size from that of a bristle to that of a finger. Hypertrophy and dilatation of the right ventricle and dilatation of the pulmonary artery commonly take place in chronic cases.

Attacks of dyspnœa, epistaxis, tachycardia, and angina have been recorded by various observers in association with this condition. The characteristic rumbling murmur accompanying patent ductus has been verified by post-mortem examination on adults, but not, as far as I am aware, on children. Gibson times the murmur as commencing soon after the systole and gradually shading off in the long pause. Combined systolic and diastolic bruits have been recorded by Drasche and a diastolic bruit by Fagge. Systolic bruits have been described by Murray, White, Simmons, and Bittorf.

The systolic bruit is heard loudest in the second or third left interspace, close to the sternum. It may be heard only to a limited extent, or it may be carried all over the chest, back and front, and into the arteries of the neck, as in my verified cases. A thrill is by no means constant. When it occurs it is best felt in the second left interspace, and if the thrill be carried up to the left clavicle in the direction of the pulmonary artery that is pathognomonic. The pulmonary second sound may be unaltered, but if the blood pressure be raised in the pulmonary artery by hypertrophy of the right ventricle or by the contribution from the aorta, then an accentuated pulmonary second sound will be heard. If the X ray picture suggests an enlargement of the pulmonary artery, that point is in favour of patent duct. If the second pulmonary sound be loudly accentuated there will probably also be observed visible diastolic pulsation or rebound in the second left interspace at the time of the closure of the pulmonary valves.

Bruits and physical signs cannot be expected to occur in patent ducts of small calibre. In order that a bruit shall be produced it is necessary that there shall be a sufficient space within the walls of the duct and pulmonary artery, in which the conflicting blood currents shall operate best to produce vibration and sound.

Systolic bruits, in my experience, are the usual accompaniments of patent ductus arteriosus in children, and the rumbling bruit occupying the systole and diastole in adults which is considered to be characteristic of that lesion is not common in them.

Tardy closure of the ductus arteriosus may well explain the disappearance of cardiac bruits in children who have been diagnosed as suffering from a congenital heart affection. Reviewing the morbid anatomy of the congenitally deformed heart, closure of this fœtal channel appears to be about the only thing possible in the way of a cure open to these cases.

Coarctation of the aorta is the name which has been given to stenosis or atresia of that vessel, either at or below the isthmus, that part which lies between the left subclavian artery and the ductus arteriosus. Soon after birth that narrow section of the aorta which is not much used during intra-uterine life is apt to be smaller than neighbouring parts of this artery, but when the circulation is reconstructed this part soon acquires its proportional relationship. Bonnet describes two types. In one, the *infantile*, there is diffuse narrowing of the aorta at the isthmus. In the other, the *adult* form, there is an abrupt constriction as of a cord at or near the insertion of the ductus arteriosus. The infantile type is developmental and may consist of a moderate stenosis only, or owing to the complete failure of development in regard to that part of the fourth branchial arch which lies between the ductus arteriosus and the subclavian artery, the part corresponding of the aorta—the isthmus—is represented by a cord only or completely disappears. The *adult* form he considers is not of developmental origin, because it does not occur in the fœtus and is not met with until the closure of the ductus arteriosus, and is brought about by the act of closure of the duct itself, elements of which are incorporated in the aorta, and which by their contraction constrict that vessel as with a ligature. In the infantile type of cases patency of the ductus arteriosus is common, and in the adult type that channel is usually closed. In the adult type extensive collateral circulation is common according to

Bonnet. In the infantile type associated cardiac developmental anomalies are common and often severe; in the *adult* type the anomalies are usually unimportant and rarely severe. In the adult type the percentage of cases without associated cardiac developmental anomalies is far greater than in the *infantile*.

From the literature it appears that patients with coarctation of the aorta may live long and the condition not be suspected. In some death takes place suddenly and without obvious reason, sometimes from rupture of the aorta. Or death may occur from heart failure preceded by the signs and symptoms of mitral disease.

Congenital aortic stenosis and atresia are much rarer than are the corresponding defects at the pulmonary artery. Conus stenosis in this situation takes the form of a thickened ring of the endocardium, just below the aortic valves, which involves the base of the anterior mitral cusp, and is ascribed by Keith to arrest of development. The danger of this rare anomaly lies in its tendency to become the seat of endocarditis. In aortic atresia, brought about by such conditions as obliteration at the root or by fusion of the cusps, the left ventricle atrophies and the circulation is conducted through the foramen ovale, patent septum ventriculorum, and patent ductus arteriosus. The life of such cases has been limited to a few weeks. In aortic valvular stenosis there are two forms: one in which the septum ventriculorum is perfect, the other in which it is deficient. In this latter variety other developmental anomalies are the rule.

Aortic disease of the acquired type in children is not as rare as is commonly supposed, and some of the cases are no doubt of congenital origin. Another point of clinical interest, a recognition of which will prevent falling into error, is that aortic disease in children is apt to be associated with a bruit which is heard loudest over the pulmonary area, and not over the aortic cartilage.

Hypoplasia of the aorta is characterised by diminution in size of the aorta and arteries throughout the body, the walls of which are thin and elastic. A congenital origin has been claimed for this condition, because it is so commonly associated with anomalies in the generative and circulatory systems. A congenital tendency to the dwarfing of the arterial system had been ascribed to tuberculosis in the parents, and it may be due to other states of bad health. Hypoplasia of the aorta is associated with a dwarfed heart in some instances, and in others with an enlarged heart confined to the left side or involving both ventricles. If the heart be small during childhood it hypertrophies at puberty. The period of danger in these cases appears to belong to adolescence, when heart failure is not unlikely to occur, and this is more likely to arise under physical strain.

Defects in the auriculo-ventricular valves are very uncommon. They are commonly combined with other cardiac abnormalities, uncomplicated lesions of the mitral and tricuspid valves being exceedingly rare. Of the two valves the tricuspid is more frequently attacked than the mitral, and of the lesions tricuspid atresia is the commonest.

Tricuspid stenosis in association with disease of the pulmonary valves is occasionally seen.

Mitral atresia is very rare. Cases have been recorded by Rokitansky, Thérémin, and by Lawrence and Nabarro, and in each instance the condition has been associated with somatic abnormalities. A specimen of congenital mitral stenosis was exhibited at the Society for the Study of Disease in Children by Fisher in 1901. Of mitral insufficiency Cautley has afforded an example in a girl, aged 22 months. The physical signs were those of mitral regurgitation, and another case in a boy, aged 10½ months, has been quoted by Maude Abbott.

Hypertrophy of the heart undoubtedly arises as an idiopathic disease of congenital origin. Simmons was the first to record a case of its existence at birth. He found the heart of a newly born child, who died during the labour, to be enlarged to twice its natural size, all other organs of the body being quite healthy. Prior to that Hauser had recorded a case in a baby, aged 11 months, in which the heart was enormously dilated, with hypertrophied right and left ventricles. Virchow suggested that the hypertrophy might be congenital.

Cardiac displacements such as dextrocardia and mesocardia are the only congenital malpositions that are of interest to the physician and therefore that need be reviewed. Dextrocardia accompanied by transpositions of the viscera is commonly viewed rather as a rare developmental freak than recognised, as should be the case, as a not very out-of-the-way clinical experience. Dextrocardia without associated transposition of the viscera is rare, and not only is it rare, but it must be viewed with suspicion because the diagnosis of congenital dextrocardia has been made on some few occasions, and this opinion has not been confirmed by necropsy.

Sometimes the position of the fœtal heart in the centre of the thorax is maintained, giving rise to the condition known as "mesocardia." The apex beat will then be felt in the epigastrium, and the position of the organ will readily be demonstrated by the X rays.

CHRONIC GLANDERS IN MAN WITH REFERENCE TO AN UNUSUAL TYPE AFFECTING THE UPPER RESPIRATORY TRACT.*

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SINCE the publication in 1830 by Elliotson[1] of the first undoubted case of chronic glanders in man the recognition of this condition has become increasingly frequent, and in 1906 Robins[2] of Montreal collected 156 cases, including one of his own which was the first reported case occurring in Canada. After a careful study of these cases and of a few others which have since been recorded, the striking characteristics appear to be, firstly, the great variability of the manifestations; secondly, the extreme difference in duration both of the incubation period and of the periods of latency or quiescence which occur during the course of the disease; and thirdly, the similarity of the manifestations to those of syphilis and tubercle. In about 40 per cent. of the collected cases there was ulceration of the nasal, buccal, or pharyngeal mucous membrane at some time or other during the course of the disease, but in only three of these was it a salient feature, while in one case alone was it the sole lesion at the time when the patient came under observation. This case was that of a patient at the Westminster Hospital under the care of Mr. A. H. Tubby[3] in 1904–05. We have, however, recently had the opportunity of observing a similar case for a little over a year, and feel that it is worthy of being somewhat fully recorded, both on account of its rarity and because of the importance of making a correct diagnosis. The difficulty of diagnosis in this class of case lies in the close resemblance between this condition and tertiary syphilitic ulceration of the buccal and pharyngeal cavities; indeed, both in Mr. Tubby's case and in our own case the patients were treated for syphilis for a considerable length of time.

CASE 1 (Mr. Tubby's case).—The patient, a carman, aged 22 years, was first seen in May, 1904. "Symptoms had then been present for nine months. At this time the soft palate was entirely destroyed; the hard palate was perforated, and there was a widespread granular erosion of the oral and nasal pharynx. On the lateral aspect of the dorsum linguæ was a soft discrete swelling, walnut size. There was no history or evidence elsewhere of acquired or congenital syphilis. By December, 1904, the ulceration had spread considerably, involving the anterior part of the tongue, but for a month or two the progress of the disease seemed to be arrested, and the patient's general condition improved. The temperature curve for 9 weeks showed an almost uniform daily intermission of 2° or 3°, but for the last month or two of his first stay in hospital was almost within normal limits." In January, 1905, a diagnosis of glanders was made. Previous to this the patient had been treated for syphilis. By April, 1905, a considerable part of the alveolar border of the upper jaw was destroyed. Almost the whole of the anterior third of the tongue was destroyed; the right antrum of Highmore was invaded. The patient died from "exhaustion" in August, 1905.

* The superior figures occurring in this paper refer to the bibliography printed at the end.

CASE 2.—On August 8th, 1908, the patient, a carman, came to the out-patient department of University College Hospital, where he was seen by one of us. He was complaining of "sore-throat." The patient was a slightly built man, appeared thin and wasted, but did not look acutely ill. On inspection of the mouth extensive ulceration of the palate and pharynx was visible. This had completely destroyed the uvula and also the posterior half of the soft palate. The tonsils and fauces were entirely destroyed, with the exception of a part of the anterior pillar and a small piece of tonsil on the left side. The ulceration was beginning to invade the alveolar border of the lower jaw on the right side, with extension on to the cheek. There were also one or two small isolated ulcers present on the remains of the soft palate, due to the breaking down of small abscesses. These ulcers were not raised above the general surface of the palate and their edges were very thin and undermined. The main ulceration was continuous over the palate and fauces. There was very little sign of inflammation, the margins not being discoloured and only slightly swollen. The edge was extremely irregular and a little undermined, while the floor was covered to a large extent by sticky muco-pus. The visible part of the posterior pharyngeal wall opposite the base of the tongue was covered by scar tissue, a prominent band of this running almost transversely across. On posterior rhinoscopy, the septum and turbinals were seen to be swollen and covered by tenacious pus, which also covered the Eustachian cushions and orifices, but there was no ulceration. The vault and upper part of the naso-pharynx were covered by thick crusts. On removal of these the condition was seen to be similar to that of the lower part of the posterior pharyngeal wall, the mucous membrane being replaced by cicatricial tissue. On anterior rhinoscopy, a septal deviation and enlarged anterior end of the inferior turbinal were found blocking the right nostril, the left being widely patent and the mucous membrane reddened. There was no ulceration on either side. On laryngoscopic examination nothing abnormal was found. There was no enlargement of the submaxillary or cervical glands. Nothing abnormal was found in the heart and lungs. A small scar, the result of an abscess, was present on the back of the left forearm. No evidence of syphilis, congenital or acquired, could be found on careful search.

The case was diagnosed to be one of chronic glanders, and this diagnosis was strongly supported by the following facts, which were elicited on questioning the patient. He first felt ill in August, 1907, when he was seized with violent cramps in the legs, pains in the back and limbs, and severe headache. He was taken to Charing Cross Hospital. On questioning the patient as to the condition of the horses under his care at that time, he said that the horse he was driving when he was taken ill "had a mattery discharge from its nose and large lumps under the jaw." He further learnt that four days after his admission to hospital (Charing Cross) this horse was removed from the stable and destroyed. His informant thought that it was suffering from glanders.

The patient was admitted to University College Hospital under the care of Mr. W. Trotter and was isolated. The following history was then compiled from material obtained from the Charing Cross Hospital. On August 13th, 1907, the patient was admitted to that hospital, remaining there till Sept. 6th. His illness dated from August 8th, when he was seized with violent cramps in the legs, pains in the back and limbs, and severe headache. During his stay in the hospital these continued but gradually diminished in severity. An abscess developed on the back of the left forearm and on August 27th this was opened. Cultures from the pus proved sterile. The temperature ran a febrile course but gradually came down to normal. The case was thought to be one of influenza with intramuscular abscess. On Jan. 10th, 1908, the patient returned to Charing Cross Hospital and attended the throat department with an ulcerated throat which was considered to be syphilitic. He gave a history that for about six weeks he had found that liquids came back through his nose. At this time there was extensive ulceration of the naso-pharynx and tonsils, with loss of the anterior pillar on the right side. There was no ulceration in the nasal cavity. He attended till Feb. 18th, when he went to the infirmary, where he remained till August 8th, on which day he came to University College Hospital. While in the infirmary he was treated for syphilis, but without benefit.

On admission to University College Hospital on August 8th, 1908, bacteriological investigations were at once commenced. Cultures on potato were made with pus from one of the isolated ulcers on the soft palate, and also from a small piece of the ulcerated border. A non-Gram-staining organism was grown, which when injected intra-peritoneally into a male guinea-pig produced orchitis, but conclusive evidence of glanders was not obtained. While in the hospital the patient was treated with mouth washes and large doses of mercury and potassium iodide, bacillus mallei not having been found. His general and local condition improved somewhat, the ulcerated area becoming cleaner and showing evidence of healing in some places. The temperature at first was very irregular, rising to 102°F. or more at night, and coming down to normal in the morning, but after three or four weeks it became more regular, with only an occasional rise of one or two degrees. He was discharged on Oct. 24th, but continued to attend as an out-patient in the Throat Department, under the care of Mr. H. Tilley. In December, 1908, the case was shown at a meeting of the Laryngological Society, when the consensus of opinion was in favour of the diagnosis of refractory syphilitic ulceration of the upper respiratory tract. A Wassermann's reaction was done by Professor Lieven of Aix-la-Chapelle, who confirmed the diagnosis of syphilis on clinical examination, but was surprised by obtaining a negative result by the test. The patient continued to attend the ear and throat department of University College Hospital until May, 1909, when both the general and local conditions were much worse.

In June, 1909, he was admitted to the Throat Hospital in Golden-square. On admission he was found to have two abscesses, one subcutaneous, below the angle of the jaw on the right side, and the other pointing under the mucous membrane of the right cheek, while the ulceration of the palate had progressed considerably. The abscess below the jaw was opened and cultures were made from the pus. A non-Gram-staining organism was again obtained and of 2 male guinea-pigs injected, 1 died with orchitis. A section from the ulcerated edge of the palate showed chronic inflammatory changes. Owing to the closing of the ward he left the Throat Hospital, and on July 26th, 1909, was readmitted to University College Hospital under Mr. Bilton Pollard. A few days previously he had a considerable hæmorrhage from the palate.

On admission the patient was very pale and much wasted. On the right side of the neck was now a small, shallow, irregular ulcer, the remains of the abscess opened while the patient was at Golden-square. The edges of this were thin, congested, and undermined, and some thin, yellowish pus was escaping. On both sides of the face over the lower jaw were small abscesses; that on the right side was covered with thin discoloured skin, the skin over the other being very little affected. There was scarcely any inflammation around either abscess. There were no enlarged glands on either side of the neck. The ulceration in the mouth had by this time entirely destroyed the soft palate with the fauces on either side, and was spreading forwards on to the cheeks and alveolar border of the lower jaw on both sides. The ulceration on the hard palate had spread until it reached the alveolar border, and granulations were present between and around the teeth. On anterior rhinoscopy the condition of the left nostril was similar to that found in August, 1908. The inferior meatus on the right side, however, was filled with pus, and on the lower portion of the septum was an oval ulcer extending backwards on to the spur, the ulcer having a sloughy base and somewhat overhanging edge. The inferior turbinal was red and granular in appearance and touching the spur. On posterior rhinoscopy the mucous membrane on either side of the septum was swollen and a small ulcer was present on the left side of the posterior border of the vomer. The posterior ends of the middle turbinals were hypertrophied, and on the posterior end of each inferior turbinal was a small ulcer. The vault of the pharynx presented practically the same appearance as in August, 1908. There were some granulations in front of the left Eustachian orifice. On laryngoscopy the epiglottis, larynx, and base of the tongue were unaffected. No abnormal physical signs were detected in the lungs.

On August 3rd the abscesses in the face were opened and thick yellowish pus was evacuated. "From this pus four cultures were made on potato. Growth was visible on August 6th in one of the tubes, and on the 7th half a dozen separate colonies were present. Microscopic examination of

this growth showed a picture indistinguishable from that seen with an undoubted glanders culture. Three sub-cultures were made from the primary culture on August 7th, and each had a visible growth on the 9th, apparently quite pure. From one of these cultures two male guinea-pigs were inoculated intraperitoneally on the 9th, and also fresh sub-cultures made. On the 12th there were signs of orchitis in both guinea-pigs, and on the 16th one was chloroformed to death and a post-mortem examination made. There were no apparent lesions of the abdominal or thoracic viscera, but there was extensive ulceration of the tunicæ vaginales of the testicles, and the testicles were partly adherent to the scrotum. Microscopic examination of the pus showed the presence of bacilli with the morphological characters of glanders bacilli, and cultures made on the 16th, using the pus as seed material, had a visible growth on the 19th, and this growth had all the appearances of a glanders growth, both macroscopically and microscopically. Single colonies also appeared on August 8th in two more of the original tubes." These bacteriological investigations were made at the Royal Veterinary College, Camden Town, by Mr. A. Leslie Sheather, to whom we wish to tender our best thanks.

While in hospital the patient's general condition improved somewhat, although the palatal ulceration continued to spread. Two or three pretty severe hæmorrhages occurred from the separation of sloughs in the naso-pharynx, and a small oval perforation appeared in the hard palate. The ulcers on the face pursued a very chronic course, but were scabbed over by Sept. 2nd. The temperature varied from 102° to 97·4°, rising every two or three days, and usually falling to normal within 12 hours.

Chronic glanders is notoriously difficult to diagnose, but there are, however, in the majority of cases some features which, although when taken singly are of small value, yet collectively are of the greatest importance in making a diagnosis; these are: 1. Occupation. In nearly every case of chronic glanders the patient has worked at some period among horses. 2. History. (*a*) Of a febrile attack of uncertain nature at a variable period before the onset of the symptoms for which the patient seeks treatment. Such an attack occurs in 40 per cent. of cases of chronic glanders (Robins) and has been most variously diagnosed. (*b*) Of subcutaneous and intramuscular abscesses. These have been found to occur in 83 per cent. of cases (ibid.). (N.B. The scars resulting from these abscesses have frequently been mistaken for the result of syphilitic lesions, as in a case described by Besnier.[4]) 3. Type of ulceration. In a considerable proportion of the cases where palatal ulceration is found it is quite indistinguishable from that of tertiary syphilis, but in some cases, of which our own is an example, the process seems to be much more one of simple melting away of the tissues than of granuloma formation with subsequent necrosis, such as occurs in gummata. 4. Temperature. A daily variation of 2 or 3 degrees or more is an almost constant feature. In our own case the temperature was much more of a tertian type, and Hallopeau[5] notes the same fact. 5. Presence or absence of undoubted signs of syphilis such as interstitial keratitis or old periosteal nodes. 6. Reaction to anti-syphilitic treatment. Improvement in chronic glanders is said to have occurred in a few cases under mercurial treatment, and in two cases recorded by Gold[6] a cure is said to have resulted. In the majority, however, no improvement results.

A diagnosis can generally be arrived at on careful pathological investigation, but the following sources of error have to be borne in mind:—(*a*) In examinations of sections from the edge of an ulcer glanders bacilli are few in number and difficult to recognise, the reason, according to Sir J. McFadyean,[7] being "the rapidity with which nuclear destruction takes place, and the persistence with which the nuclear fragments remain as deeply staining débris, rendering the attempt to identify the bacilli in sections very unsatisfactory." (*b*) The intraperitoneal inoculation of guinea-pigs with pus direct from an ulcer or abscess is liable to be inconclusive owing to the animal not developing orchitis at all or else dying from general peritonitis before orchitis has time to develop. To obtain conclusive evidence from Straus's reaction it is necessary to make an injection from a culture grown (on potato) with pus from the suspected patient.[8] Omission of this precaution was the cause of the first failure in our own case. (*c*) An adult male guinea-pig should be used for the inoculation. Bernstein quotes Nicoll, who proved experimentally the marked vulnerability of the tunica vaginalis of the adult male guinea-pig, the greater resistance of the female, and the still greater resistance of the young male.

General Remarks.

Mode of infection.—In the majority of cases this occurs through a wound or abrasion of the skin, but in a certain number the infection appears to be through the mucous membrane of the mouth or nose. Whether a previous lesion is necessary or not is uncertain.

Incubation period.—This appears to vary from a few hours to a year,[9] the most usual period being four to seven days.

Latency.—Long periods of freedom from any manifestation are a striking feature of chronic glanders. In Hallopeau's case there was an intermission of three years, while Babés[10] mentions the case of a groom who caught the disease from glandered horses, apparently recovered, and lived for five years to all appearances quite cured in a region where there were no horses but only oxen. At the end of this time he developed multiple refractory abscesses and signs in the lungs, dying a year later. Bacillus mallei was found at the necropsy. Von Baracz[11] also mentions a case with five years' freedom from symptoms.

Variety of manifestations.—This variety is marked in the initial stages, and continues throughout the course of the disease. Typhoid fever, septicæmia, pneumonia, and rheumatism are a few only of the diagnoses which have been made at the onset; the initial rash when present has most often been mistaken for that of small-pox. The later manifestations simulate nearly all those of syphilis and tubercle, from gummata to osteo-myelitis and meningitis.[12]

Duration of the disease.—It is difficult to give the average duration, but a considerable proportion of cases die within four months. There are, however, numerous instances where the patient has lived for two or three years, while there are wo recorded cases of six and one of 15 years' duration.[13]

Prognosis.—It has been estimated that about 60 per cent. of the chronic cases recover. This figure is certainly in excess of the true one, in view of the fact that many cases are considered cured and lost sight of immediately afterwards. Seeing, however, the long periods of latency recorded, it is most likely that a certain percentage relapses. Babés[13] states that he had repeatedly recognised in the lungs of those who had dealings with horses, and who had died from other diseases, old, sometimes partially calcified, tubercles which he had been wont to attribute to tuberculosis or syphilis, but in one such case he found the B. mallei culturally, the man having died from chronic nephritis. (See also Zieler.[14])

Treatment.—Treatment of any kind has so far seemed to be of little avail. Bonomé[15] reports a case where "improvement" followed injections of mallein, while Gold records two cases which he considered were cured by mercurial inunction. Possibly some good may result from a vaccine treatment.

Both the cases reported above show very well the remarkable resemblance of chronic glanders in this form to tertiary syphilis. Clinically there was little in either of them to suggest a diagnosis other than that of syphilis, and, indeed, both of them were treated for that disease for long periods. In our own case a diagnosis was arrived at through a recollection of Mr. Tubby's case, which was shown at the Clinical Society of London in 1904. These two cases appear to represent a clinical type of the disease not previously recorded. In Mr. Tubby's case the patient had ulceration of the buccal mucous membrane for 15 months, and then developed multiple subcutaneous abscesses shortly before death. Our own case had similar lesions for 18 months before developing abscesses. Both cases show a temperature typical of chronic glanders. In Mr. Tubby's case no history of acute illness was obtained, but in ours, in common with most other cases of chronic glanders, this was present. It seems possible that this clinical type may be commoner than has been supposed, owing to the absence of other lesions, and may account for some of the cases recorded as intractable syphilis of the upper respiratory tract.

The importance of making a correct diagnosis between a disease which is infectious and usually fatal, and a condition which is practically non-infectious, need not be emphasised.

Several cases are on record in which chronic glanders has been transmitted from man to man, the most striking instance, perhaps, being that reported by Batko,[16] where a man suffering from chronic glanders infected his wife and two children, all four dying. Note, also, the case quoted by Von Baracz,[17] of a surgeon who died from acute glanders through pricking his finger whilst operating on a suppurating knee-joint in a colleague suffering from the chronic form of the disease.

We wish to express our thanks to those gentlemen under whose care our patient has been for permission to make use of their notes.

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TWO INTERESTING BILHARZIAL CONDITIONS.

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As our clinical knowledge of the widespread ramifications of bilharziosis throughout the body becomes more exact, we are beginning to recognise certain peculiar limitations of the disease in particular organs and tissues; and, as a result of this increased knowledge, our treatment has become much more radical and effective. And this, too, in cases that formerly appeared beyond any reasonable operative interference short of actual mutilation. In this connexion I would like to record my recent experiences with two bilharzial conditions, in which the results obtained have been very satisfactory—a distinctly encouraging fact in view of our almost hopeless struggle in the treatment of the more advanced degrees of bilharziosis in other parts of urinary and intestinal tracts.

Bilharziosis appears to manifest itself very lightly outside of Egypt; for a recent writer states that in a long experience of the disease in Natal he has never seen a fatal case. In Egypt, on the contrary, the disease appears to attain the highest level of pathological activity; and the records of Kasr-el-Ainy Hospital, prepared by Dr. H. B. Day, show that, of a total of 3400 admissions for medical and surgical diseases, in 1907, there were 158 cases of bilharziosis; and, of this number, 50 cases were unrelieved and 23 died, a mortality of over 14 per cent.; while, in 1908, of 4003 admissions, 281 were cases of bilharziosis, of whom 45 were unrelieved and 25 died, a mortality of almost 9 per cent. Taking the two years together there was thus a certain mortality of 10 per cent. But this does not nearly represent the true death-rate, as many patients are taken out by their friends in a moribund condition, so great is the native prejudice against dying in hospital. Nor does the number of admissions give much idea of the *frequency* of the disease, as many cases are treated as out-patients, being either in the early stage of the malady or unable to find room in the wards. Last year, notwithstanding, 7 per cent. of the total admissions for medical and surgical diseases were bilharziosis.

The two conditions to which I wish to refer are: (*a*) bilharziosis of the penis; and (*b*) what was to me a new manifestation of the disease, bilharziosis of the anus and surrounding tissues.

BILHARZIOSIS OF THE PENIS.

By far the greater number of cases of bilharziosis of the penis are associated with bilharziosis of the urethra, with or without urethral fistulæ; but there are certain examples of what may be called primary bilharziosis of this organ, to which attention will first be directed.

1. *Bilharzial deposits in the erectile and subcutaneous tissues of the penis.*—In certain cases there may be "a deposit of bilharzial tissue, in the form of a hard lump, in the corpus spongiosum or even in the corpora cavernosa, which can sometimes be completely removed by operation and which are then seen to have no connexion with the urethral canal."[1] It is only the presence of bilharziosis in other parts of the body and the microscopical examination of the specimen that enable one to make a positive diagnosis. These masses produce no symptoms other than those of inconvenience, and in time tend to soften and reach the skin or urethra. "Sometimes, again, an external sinus leads down to a hard mass of similar characters, but without any urethral communication." Similar lumps may be found immediately beneath the skin of the penis, usually on the under surface, and may be removed in the same way. These subcutaneous deposits may occur in other situations, particularly in the region of the perineum and anus, and ultimately may develop into typical bilharzial sinuses or give rise to a slowly spreading irregular ulceration; but I have never seen this ulceration occur on the penis, except on the glans, where, sometimes as a result of infiltration of this part, there are shallow worm-eaten areas or numerous small patches of atrophic scarring. When a more definite ulceration *does* occur either in the glans or at the meatus it appears to remain quiescent for some time and then suddenly to take on an epitheliomatous growth.

2. *Bilharziosis of the glans penis and prepuce.*—A peculiar bulbous condition of the end of the penis is sometimes met with, in which the whole severity of the disease seems to vent itself on the glans, the prepuce, and the first inch or two of the urethra. The surface of the glans is dry and pitted or patchily covered with shallow atrophic scars; while, from bilharzial infiltration and obstructed lymphatic circulation, the substance of the glans becomes swollen and hard and merges into a similarly hard swollen prepuce, which forms a very distinct collar of solid œdema, sharply separated by a deep furrow from the body of the penis. This furrow is usually in the site of the circumcision scar. As a result of the solid swelling all round it, and, also, of a bilharzial deposit in the mucous membrane of the urethra, the external meatus becomes very much constricted and there is considerable difficulty in introducing even the smallest sound. The actual orifice of the urethra may be eccentrically placed, owing to the scarring around it and the involvement of the frænum of the prepuce in the solid œdematous change. Once the sound has passed the constricted portion of the urethra it goes on into the bladder without further difficulty. There is frequently a discharge from the meatus in these cases which may be mistaken for gonorrhœa, the swelling of the glans and prepuce being ascribed to an accompanying inflammation of these structures. In these localised cases there are usually no fistulous tracks and only a very limited extent of urethral infiltration. This latter statement was proved in a particular case, as a partial amputation of the penis was performed, in our ignorance, and, to the naked eye at all events, the mucous membrane in the stump was quite normal. Hitherto in such cases a partial amputation has been practised, but in future I should certainly attempt the removal of the swollen prepuce only, as will be described later, at the same time adopting the necessary measures for the effective treatment of the meatal stricture. These milder degrees of bilharziosis of the penis occur almost entirely in boys, which makes it even more imperative to adopt conservative measures if possible.

Of the more definitely *secondary* conditions the most common is—

3. *Bilharziosis of the glans, prepuce, and body of the penis.*—In these cases, in addition to the lesions just described, the skin and subcutaneous tissues of the body of the penis are also involved. Behind the deep furrow at the circumcision scar the penis may be swollen to almost any extent, with the same peculiar solid œdema, which often only extends to the root of the organ, being here limited by another deep furrow. Cases of this kind are frequently associated with bilharziosis of the urethra, but not all of them, and running through the swollen tissues are numerous urinary fistulæ. In one case of this nature there are several penile fistulæ, communicating with the anterior

[1] Bilharziosis, Cassell and Co., 1907.

portion of the urethra. Such fistulæ are generally found on the under surface and open into the urethra at the posterior margin of the glans. In this particular case there is also a peculiar silkiness of the skin of a somewhat enlarged scrotum from partial lymphatic obstruction at its neck. This appearance is not uncommon in this condition. In more advanced cases the urethra is much more extensively affected and numerous fistulæ run irregularly through a mass of false elephantiasis tissue, which not only involves the penis and its coverings but extends to the scrotum and perineum and surrounding parts. In a case of this kind the fistulæ open mainly into the perineal portion of the urethra and less frequently into the penile part. In fact, the clinical picture is rather that of bilharzial urinary fistula than that of bilharziosis of the penis. The testicles are usually quite unaffected, though long tracks may run in the soft tissues of the scrotum and perineum in all directions.

Treatment.—In my earlier cases it was my practice to amputate the penis behind the mass, if possible, and to send the more advanced cases out as inoperable. I am now convinced that in most cases these mutilations are quite unjustified unless an epitheliomatous condition exists, and I now proceed to dissect out the body of the penis from its enveloping sheath of swollen tissues. The operation is similar to that practised for elephantiasis of the penis and consists in a free dorsal incision extending from beyond the limits of the swelling above to the posterior margin of the glans below. The incision is deepened till the loose connective-tissue space between the subcutaneous tissues and corpora cavernosa is opened up. Working in this space laterally in both directions, with a catheter in the urethra as a guide, the whole of the swollen tissue is completely removed, leaving only the glans and the erectile tissue. Fistulous tracks, if they exist, are cut off flush with the urethra, their opening into which is thoroughly scraped. The large raw surface is dressed for the first few days with protective and later with red lotion. When granulation has commenced, skin grafting by Thiersch's method is practised and the new skin sheath rapidly forms. The glans gradually becomes smaller and the fistulæ slowly heal. Even in the localised form of the disease the ring of swollen prepuce may be dissected off and the surface subsequently grafted and an attempt made to dilate the strictured meatus by incision and subsequent dilatation. Any fistulæ are treated as may be necessary. I wish particularly to advocate this conservative treatment in these cases, and to record my satisfaction of the results obtained by its adoption. The number of cases so far is small—the condition is not a common one; but if such cases as we have had can be treated successfully in this way it would indeed be a remarkably advanced one that could not.

4. *Bilharziosis of the glans penis ending in epithelioma.*—As has been already incidentally mentioned, a bilharzial infiltration of the glans penis may give rise to a superficial ulceration. This in time progresses by easy stages until it becomes definitely malignant. Here there is usually an extensive infiltration of the urethra with bilharzia, and in a comparatively short time a rapidly spreading epithelioma develops, with secondary glands in the groins and all the ordinary concomitants. Kartulis has published cases of this nature in which he has found many ova among the epithelial downgrowth. Naturally nothing short of a very prompt and radical operation is possible in these circumstances.

BILHARZIOSIS OF THE ANUS AND SURROUNDING TISSUES.

I have recently had two cases under treatment at the same time of the above condition, another unusual phase of this many-sided disease and one which is quite new to me; they are the only ones I have seen. The patients were both prematurely old men with a long history of bilharzia in the urinary tract, but without any symptoms of intestinal infection. The urinary signs gradually disappeared and gave place to those of prolapse of the rectum, which preceded by some time any actual tumour. Constant tenesmus with difficult and painful defæcation were now the principal symptoms, and a good deal of muco-purulent discharge came away with and after the motions. One patient complained of occasional bleeding, but it was not at all a prominent symptom. On examination a hard localised mass was found completely encircling the anus and involving the mucous surface well above the sphincter muscle. No bilharzial papillomata could be felt or seen, and the mucous membrane was perfectly smooth and not ulcerated. Laterally the mass extended well out on each side into the ischio-rectal fossæ, but could be freely moved in all directions with the anus as its fixed point. On closer examination the lump was seen to consist of much thickened epithelium, in which were deep tracks running for some distance irregularly into the tumour, but having no communication with the rectum. The white sodden epithelium around the orifices of these pits, and the thick, dirty sebaceous-like discharge exuding from them made one think they were sinuses; but on subsequent dissection it was quite evident that these pits were simply formed by an infolding of a normal, though thickened, epithelium and that nowhere did they communicate with each other or with the rectum. In the midst of the mass was the distorted opening of the anus, resembling somewhat the urethral orifice in the much elongated prepuce of a case of elephantiasis of the penis and scrotum. The tumour itself was very hard but gave no impression of malignancy, nor were there any enlarged glands in the groins. The provisional diagnosis of bilharziosis was made on the presence of the disease in other parts and the resemblance of the growth to somewhat similar appearances of bilharzial papillomatous-like masses about the female genitals.

Under stovaine anæsthesia the mass was completely removed by a circular incision well beyond its limits all round, and finally cutting across the rectum above the growth. The cut edges of the gut were then sutured all round to the surrounding fat, in the hope that contraction would occur later and assist in the formation of a sphincter. No attempt was made to close the rest of the raw surface, and after some weeks it had become firm scar tissue around a much smaller rectal orifice, and both patients regained practically perfect control over their motions.

The mass on section displayed the nature of the epithelial-lined sinuses very well, and for the most part consisted of a much hypertrophied and redundant epithelial covering and a dense fibrous bilharzial tissue. The absence of fistulæ and ulceration on the mucous membrane was remarkable, in striking contrast to the chronic bilharzial ulceration in this situation which in other cases not infrequently ends in epithelioma. The absence, too, of any naked-eye bilharzial infiltration of the rectum is another interesting feature.

Cairo.

A CASE OF LATE RICKETS (?) IN A PREVIOUSLY HEALTHY CHILD AGED THIRTEEN YEARS.

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IN THE LANCET of Nov. 10th, 1906, there appeared a report of an address on Adolescent Rickets, given by Mr. H. H. Clutton to the Clinical Society of London. He quoted at some length a typical case, the photographs of which show striking deformity. As a result of his observations, Mr. Clutton concluded that this somewhat rare disease must be regarded as pathologically identical with infantile rickets; and, so far as I can gather, this appears to be the most generally accepted view to-day. The following case, occurring in my own practice, I venture to publish as being of interest in connexion with this subject.

The patient, a girl, was just under 14 years of age when she first came under my care. Her parents gave me the following history. Until the age of 13 years the child had been remarkably healthy. She had helped her father in the fields—he was a small farmer—and had distinguished herself in games at school, winning several prizes for running and jumping; but with the beginning of menstrual life there had come a change. The girl, though not apparently suffering in her general health, began to have difficulty in walking, and it was noticed that her legs, especially the right, were beginning to bend outwards. She was taken to a "bone-setter." This gentleman declared, after the manner of his kind, that both hips were "out," and he proceeded forthwith to "put them in." So powerful is imagination backed by faith that the parents avowed the child was better for some weeks after these manipulations. However this may be, they presently

took her again, and were now told to go and get "irons." Irons were accordingly obtained and the patient wore them for some months. In the meantime the deformity continued to increase and the apparatus became so painful that it had to be discarded. It was at this stage that I was called in.

Physical examination showed that there was some measure of justification for the bone-setter's diagnosis. The patient walked with a peculiar waddling gait, which closely simulated that of double congenital dislocation, and there was slight lordosis present. Nevertheless, a careful examination of the joints, combined with the history of the case, convinced me that there was not, and never had been, any dislocation. The legs were markedly bowed, the thighs curving out from the pelvis to such an extent that when the child stood with heels together and toes at an angle of 45° there was a gap of six inches between the knees. The right tibia bulged outwards suddenly as it neared the ankle-joint; the left was fairly straight. The pelvis appeared normal. There was slight left dorsal scoliosis, compensated by right lumbar divergence, and the girl was round-shouldered. The parents declared that her back, like her legs, had for 13 years been perfectly straight. For the rest, the patient seemed to be in fair health and spirits, possessed of a good appetite, and free from digestive disturbances. The leg and thigh muscles were well developed and powerful. There was no tenderness in the pelvis, lower limbs, or elsewhere. Menstruation seemed normal; the urine presented no peculiarities; pyrexia was absent. Examination of the thyroid region revealed nothing. Apart from the spinal curvature, which, as above mentioned, was stated to be recent, there was nothing to suggest that the child had ever suffered from infantile rickets—no beading of ribs, enlargement of radial epiphyses, or pigeon chest. Nor could I obtain a history of any of the symptoms of early rickets. Measles and chicken-pox formed the sum-total of her previous ailments.

Treatment.—As iron supports had been tried and found wanting, I ordered the patient to rest for six months. The mischief done by gravity might, I hoped, be overcome by a steady force in an opposite direction, and I therefore had a special apparatus constructed by an instrument maker. The patient lay on a hair mattress. Above the waist she was made as comfortable as possible with cushions, but from the buttocks downwards her body rested on a narrow platform of boards about 3 feet long by 18 inches wide. This was furnished with a perpendicular foot-piece to which the feet were strapped, heels together (with a pad between to prevent soreness), the toes spreading to an angle of about 45°. Around the waist was fitted a belt resembling a portion of a corset; from this a strip of canvas 2 inches wide was passed down on the outer side of each leg to be attached to the foot-piece below. Six bands, 2½ inches wide, consisting partly of canvas and partly of elastic webbing, and furnished with straps and buckles, were passed round both limbs at regular intervals from the thighs to the feet. They were held in position by passing through loops stitched to the side pieces, and it was possible by tightening the straps to exercise a graduated pressure in the direction of approximating the bowed members. In order to prevent the patient from easing the strain by raising her knees the legs were bound down to the wooden platform. The apparatus, as might have been expected, produced a certain amount of cramp, but she was able to bear it quite 16 hours out of the 24.

Meanwhile the patient was given cod-liver oil, phosphorus, and virol; later she had the iodide of iron, and finally thyroid extract. Altogether, I treated her for nine months, two-thirds of which time she lay on her back. The results were disappointing. By the end of six months the legs had grown half an inch in length, and the knees came one and three-quarter inches nearer together; but it is questionable whether this slight improvement was due to anything other than the weight being taken off them. At any rate, an attempt to resume walking produced a rapid recurrence. All I could suggest now was a double osteotomy, followed by at least a year on a couch. Her people demurred to this, however, and I did not press them. Shortly afterwards they left the neighbourhood and I lost sight of the case.

To my mind the relationship between such cases as the above and infantile rickets appears more than doubtful. The rickets of early childhood is now generally admitted to be a disease of nutrition, and is readily amenable to suitable dietetic measures. That this girl, the daughter of well-to-do country people, suffered from improper feeding is hardly probable. Mr. Clutton's patient was likewise of respectable parentage. I note, too, in his account the same absence of early rachitic history, the same resistance to treatment. Is it not better to admit frankly that we do not know the etiology of the affection? The most we can say is that the disease appears to be connected with the development of the sexual functions; and that, as in the case of those bony and arthritic lesions which occur during pregnancy and the menopause, it may be in some obscure way associated with changes in the internal secretions of the generative glands.

Cockton Hill, Bishop Auckland.

A CALCIFIED LEFT OVARIAN DERMOID, SEPARATED FROM ITS PEDICLE, TRANSPLANTED

ON TO THE RIGHT BROAD LIGAMENT AND VESICAL PERITONEUM; REMOVAL ON THE TENTH DAY OF THE PUERPERIUM FROM A 12-PARA.

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INSTANCES of transplanted ovarian tumours were more often recorded by the early ovariotomists when operative measures were not readily undertaken and long-standing cases more frequently came under notice. Sir Spencer Wells[1] refers to a case described by Dr. Atlee, who found a dermoid tumour post mortem in a woman aged 79 years. The presence of a tumour had been recognised 47 years before by Dr. Atlee's uncle. There was no pedicle, and the tumour was dependent upon adhesions for its vascular supply. Sir Spencer Wells himself operated upon a case where the tumour had been present 18 years. During that time the patient had married and had had three children, the tumour lessening with the progress of each pregnancy. There was no pedicle, the blood-supply having been kept up through the vessels of adhering omentum and mesentery. The patient was pregnant at the time and was delivered of a living child seven months after. Mr. Alban Doran[2] described a case he witnessed which was operated upon by Mr. Knowsley Thornton in 1881. A woman, aged 34 years, had for seven years presented symptoms of an abdominal tumour, and in the interval had given birth to four children. A spherical dermoid cyst of the size of a cricket-ball was removed. It was entirely detached from its pedicle and adherent to the omentum. The right ovary was cystic and was removed. The left Fallopian tube was obstructed and slightly dilated; close to it in the site of the ovarian ligament lay a short firm tag of fatty and partly calcareous tissue. In a paper on Twisted Pedicles Mr. Knowsley Thornton[3] mentioned four instances of ovarian dermoids where the pedicle had completely separated.

Transplantation of ovarian tumours is probably usually preceded by torsion and gradual attenuation of the pedicle. As torsion occurs more frequently during pregnancy and the puerperium it is not remarkable that most of the recorded cases have occurred in multiparæ. The length of the pedicle and amount of play allowed are important factors, any drag after the twist has started being sufficient to cause the pedicle to give way. The tumour, usually an aseptic foreign body, transplants itself on to the nearest omentum or intestine. When sudden torsion takes place acute symptoms immediately arise resembling those of intestinal obstruction, and rupture of the tumour from hæmorrhage into its cavity or necrosis or suppuration may occur. If the twist is gradual there may be little to mark the event. Congestion of the tumour may be followed by atrophy. The nutrition is impaired, but adhesions may gradually form and augment the blood-supply. Fibrosis and calcification may follow. The atropied pedicle may rupture, and if the tumour is free it may find a new resting place in the abdominal cavity, plastic adhesions forming between it and the peritoneum, and providing a new blood-supply.

[1] Spencer Wells: Ovarian and Uterine Tumours, p. 60, 1882.
[2] Doran: Tumours of the Ovary, London, 1884, p. 118.
[3] Knowsley Thornton: Rotation of Ovarian Tumours, International Journal, 1888, p. 357.

The following case is that of a woman, aged 40 years, and married 22 years, who was sent up to the Stanley Hospital by Dr. Gertrude M. Hutton as a case of pregnancy complicated by a tumour. The patient stated that she had married at 18 years and had had 11 children. Her first child was born without difficulty at seven months in 1887, her health during pregnancy having been good. She had a quick confinement and was attended by a medical man. In 1890, when four months pregnant, an attack of inflammation occurred, and the medical man who attended her thought she had a displacement. In 1891 a seven months' child was born after very bad health during pregnancy. With the fourth she was better, but severe "inflammation" occurred after the fifth, sixth, seventh, and eighth confinements, when she was attended by midwives. During the ninth pregnancy fainting attacks occurred, coming on generally when she was on her hands and knees scrubbing. With the tenth child she had the same poor health and trouble with micturition. In 1906, after the eleventh confinement, she recovered strength very slowly, and the periods were absent 14 months. On June 10th, 1908, amenorrhœa began and lasted until Sept. 4th, when hæmorrhage occurred, lasting until the end of the month. The patient then noticed that the pain, which hitherto had been on the left side, now occurred on the right side and in separate attacks. A short time later she became aware of the presence of a tumour on the right side. On this account she sought advice in November at the Dispensary for Women, and was sent on to the Stanley Hospital the same week. The patient was then about five months pregnant. A hard mass of the size of a fœtal head could be seen and felt in the right iliac fossa. Though not very moveable it could be pushed down partly into the pelvis and did not appear to be in close connexion with the enlarged uterus. Pressure caused severe pain. The diagnosis was uncertain, but the situation and consistency were rather in favour of a subperitoneal fibroid.

As the pain increased the patient was admitted on Jan. 3rd, when seven months pregnant. The temperature and the pulse were normal. The swelling was very obvious and gave the abdomen the appearance of a transverse presentation. After a few days' rest in bed the pain subsided and the patient was sent home with instructions to come up at the onset of labour. This she did on Feb. 1st. The house surgeon, Mr. M. Greer, reported that it was a posterior vertex presentation. Labour was unusually prolonged, although it was an eight months child, and the head showed considerable moulding. There was no excessive post-partum hæmorrhage. A hard mass could still be felt in the abdomen in front of, and quite distinct from, the uterus. The question of ovarian tumour was considered. The child showed little vitality and died in 24 hours. On the third day the patient's temperature ran up to 102° F., but quickly fell to normal. As the patient went on well and the uterus involuted I did not operate until Feb. 13th. The omentum was spread out over a tumour of the size of a fœtal head extending from the right iliac fossa towards the pelvis. On dividing the omentum deeper adhesions were apparent between the tumour, the vermiform appendix, and the right tube. The tumour was fixed by a broad base on to the anterior surface of the right broad ligament and peritoneal surface of the bladder. The adhesions were ligatured and divided. A large aperture in the right broad ligament was closed with a continuous catgut suture. A stump consisting of about three-quarters of an inch of the left tube remained attached to the uterus, the free end impervious. A scar indicated the former position of the left ovary, the infundibulo-pelvic ligament, and the ovarian ligament. The right tube and ovary were normal. The patient made a good recovery and left the hospital on the twelfth day after operation. She now looks well and is free from pain.

The tumour measures three and a half inches in diameter and is, roughly, circular in shape. Adhering to its surface can be seen the remains of omental and peritoneal adhesions. Microscopically, sections show the lining to be of squamous epithelium. The wall is densely fibrous, with areas of calcification. The contents resemble mortar, mixed with hair and oil.

In this case there is no history of acute symptoms to mark sudden axial rotation of the tumour. The pedicle may have begun to twist during the early months of the second pregnancy, for there is abundant evidence in the tumour that its blood-supply has been deficient for many years. Had it then become fixed in its final situation it could hardly have escaped the attention of medical men, midwives, or the patient herself for so many years. Complete separation probably took place in the third month of the last pregnancy, when, after hæmorrhage for some weeks, the pain changed its locality and the tumour was first noticed. It was now in a situation to cause a certain amount of obstruction and it is interesting that this was the only lingering confinement.

Abortion is believed to be common in cases of pregnancy associated with ovarian tumours, and this patient had several premature births. It is somewhat remarkable that in spite of the alleged mortality of 25 per cent.[4] of untreated cases of ovarian tumour complicating pregnancy this patient escaped with her life through 12 confinements in 20 years. The expectant treatment of this case was based on a diagnosis of subperitoneal fibroid, and the patient was admitted to hospital with a view to operative treatment should serious obstruction to delivery occur. Had a diagnosis of ovarian tumour been made its removal during pregnancy would have been a matter of great difficulty on account of the very extensive adhesions.

Liverpool.

A CASE OF OBLITERATIVE ARTERITIS.

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THE patient in this case is a woman, aged 52 years, who until 11 years ago had enjoyed fair general health. In October, 1898, she was seized, while resting quietly, by a sudden attack of pain over the heart, which lasted for some hours and departed as quickly as it came, leaving a sense of illness which has continued more or less ever since. The note of her previous history reads as follows: "Measles at 10 years. Nervous breakdown at 20. Was refused for insurance at 23. Miscarriage 7 years after marriage, and again 13 years later; slow recovery on both occasions." The family history was unimportant. As the patient describes it, she became conscious that she possessed a heart and blood-vessels, and only at rare intervals has she been free from the sensation. The feeling was most marked at night when she was quiet in bed, and she would lie, at one time listening to the heart beating loud and rapidly and to the blood coursing with a sense of power through her carotids, and at another, hearing it as though it were an exhausted clock, watching for every lingering pulsation, and wondering how many more there would be for her to count. Apart from the listlessness which accompanied the sensation of bodily illness, there was almost constantly a certain amount of pain, or at least discomfort, in the right arm, which could always be increased by slight exertion, and amounted sometimes to a degree beyond which the patient felt she could not go. With this there was a feeling of lifelessness and cold in the limb, and the skin over the back of the hand was often discoloured in a patchy manner, more especially when the pain in the limb reached its height. During the 11 years the disease had lasted there have been on several occasions acute attacks of illness, when the somewhat indefinite symptoms described have all been accentuated, and when pain in the chest (localised over the sternum and not spreading over the arm) has been constant and severe. During these periods the patient rested—now entirely and now in part, and always with the greatest benefit to herself. The pain and weakness experienced in the right arm have been felt, though to a less degree, in the right leg; the foot on this side is generally cold, and there is often a sense of insecurity when walking or even when standing quiet.

When first seen the patient looked ill and said that she was incapable of any exertion at all. The least movement brought on pain over the front of the chest and shortness of breath, and the right arm and hand became cold and livid, patches of bluish discolouration extending from the back of the hand up the arm. There was strong visible pulsation in the carotids, more marked on the right side, where the finger could feel a rough systolic purring thrill, which was absent on the left. On the left side, from a point below the

[4] McKerron: Pregnancy, Labour, and Childbed with Ovarian Tumour, 1903. London.

middle of the clavicle, outwards a distance of 1½ inches, there was visible pulsation, and the impression conveyed to the finger was that of a kinked vessel, which each systole attempted to straighten out. There was here also a systolic thrill, but softer and less insistent than that felt over the right carotid.

The cardiac dulness extended (*a*) upwards to the second space; (*b*) to the left, half an inch exterior to the nipple; and (*c*) to the right, a quarter of an inch beyond the right sternal margin and up to the third space. The apex beat was in the fifth space, half an inch external to the nipple line. On auscultation, the second sound over the apex was somewhat flapping in character, and the first was obscured by a rough murmur, which increased in intensity as it was traced up along the right edge of the sternum, until it attained its maximum strength just below the sterno-clavicular joint. From this point it could be followed outwards along the lower edge of the clavicle, until at the junction of the outer and middle thirds of the bone it ceased abruptly. It could be followed upwards along the course of the carotid as high as the ear with very little loss of intensity. The murmur was rough and scraping and gave one the idea of considerable obstruction, with difficulty overcome. A fainter systolic murmur could be heard over the pulsating area below the left clavicle, audible also over the lower part of the left carotid, but it gave the impression of recency. It could be considerably increased by firm pressure with the stethoscope. The radial pulse on the right side could scarcely be felt and was delayed in time as compared with the other side. The artery appeared normal to the touch: the pulsation was no stronger in the axillary and the accessible portion of the subclavian than in the radial artery, and was delayed in time as compared with the other side. The blood pressure, measured by Riva Rocci's instrument, was 180 millimetres in the left radial and 130 in the right. On auscultation over the abdominal aorta a rough purring systolic murmur could be heard along its whole extent, and again from its bifurcation, on each side, over the course of the common iliac and external iliac into the femoral, where it was lost, disappearing at the apex of Scarpa's triangle. This murmur was louder in the right external iliac and femoral arteries than on the other side. In the right femoral artery the pulse was much weaker than in the left, and in the anterior tibial artery it could not be felt at all. The foot felt cold to the patient, though warm to the touch. It was not livid, and there was no pain in it or in any part of the leg.

The subsequent history shows slow improvement. The patient rested entirely in bed for 3 months, and for 2 months more she only walked across the room to the couch, remaining there for the rest of the day. The pains in the chest have disappeared, but there is very frequent discomfort in the right arm and hand, amounting at times to severe burning pain. This is generally noticeable after exertion, but it may come on when the patient has been resting quietly. The same may be said of the variability of the pulse; sometimes, as on first examination, it can scarcely be felt, while at other times it is almost as strong as on the other side. The systolic murmur on the right side also varies in intensity and character, being at one time much more intense and powerful than at others; no relation, however, can be traced between the variations in the murmur and the pulse.

The pulsation in the area below the left clavicle at one time appeared to be growing more marked, and certainly the visible area was increased, pulsation being apparent to the eye also over a small area above the middle of the clavicle. The systolic murmur in this region became soft and blowing and gave the impression that some acute process was going on in the vessels where it arose, but these changes gradually died away until the condition now on the left side is much as it was when the patient was first seen. On examination with the X rays the screen showed plainly a marked uniform dilatation of the ascending arch of the aorta, but there was no sign of aneurysm. The urine was normal, about 60 ounces being the average daily excretion.

In giving a name to this condition none would appear more appropriate than "arteritis obliterans" had not this term, as far as my available literature goes, always been applied to disease of the smaller and medium-sized vessels only. Thus the originator of the name, Carl Friedländer, defines obliterative arteritis as a disease of the small and medium arteries, characterised by a growth of connective tissue in the intima, and tending to gradual narrowing and eventual obliteration of the lumen; he says of this growth that it may remain for long as granulation tissue, or it may be transformed into firm fibrous tissue, which may completely obliterate the vessel; the tissue may contain relatively few cells, and it is noteworthy that fatty and calcareous degeneration seldom occur. Friedländer points out the analogy with the changes in the ductus arteriosus and the umbilical arteries, these changes being due, not to thrombosis, but to proliferation in the arterial walls; and he instances as examples of the same transformation the changes which occur in the lungs in phthisis, and also in fibroid tumours, sarcoma, elephantiasis, and cancer; where, however, thrombosis plays an equal or larger part in the process of obliteration.

The cases referred to by Pearce Gould, Spencer, Michels, and Parkes Weber, all appear to refer only to the disease as it affects the smaller vessels and emphasise the fact that it begins in the peripheral arteries and extends backwards. On the other hand, three cases described by Hogerstedt and Nemser bear very close resemblance to the present one. In this communication the authors lay stress on the fact that the blocking of the larger arterial trunks may lead to little or no peripheral disturbance, and they instance the case reported by Mr. James Lane, where the patient suffered fracture of both collar bones and complete compression thrombosis of the right subclavian, the only peripheral effect being anæsthesia of the right little finger. They are inclined to attribute the condition in part to an endarteritis and in part to a slow thrombosis, and they draw attention to a combination of predisposing circumstances in a case reported by Heubner, where the patient, a blacksmith by trade, presented signs of complete occlusion of the right subclavian. In this case there were: (1) advanced arterio-sclerosis; (2) a history of syphilis; and (3) laborious occupation. At the same time they do not lay it down that syphilis played the sole or even the chief part in the production of the disease, leaving it a doubtful question whether the endarteritis was a specific one or whether it merely arose in a person with the general constitutional taint. Hogerstedt and Nemser in speaking of the etiology of stenosis of the larger vessels springing from the aortic arch say: 1. Embolism has not been observed. 2. Sudden crushing or tearing of the vessels—e.g., in double clavicular fractures—is extremely rare. 3. The vessels may be constricted by the growth of mediastinal tumours (aneurysm most common) or by inflammatory processes. Aneurysm may also lead to occlusion of the lumen by extension of thrombosis or to distortion of the lumen by irregular alteration in the shape of the arterial arch. 4. Much more frequent is thrombosis of the orifices of the vessels themselves; a condition rendered more likely by the presence of arterio-sclerosis, which generally occurs after the fortieth year of life, and when the disease in the aorta has gone as far as atheromatous degeneration. They point out that the subclavians are more liable to be attacked owing to the greater call made upon the circulation in the upper extremities.

I think that the condition present in this case is sufficiently rare to make its publication interesting. With the exception of the three examples described by Hogerstedt and Nemser, I can find no clear record of idiopathic stenosis of the great vessels springing from the aortic arch, and there seems to be little doubt that this is the state of things here. The patient has probably suffered from extensive disease of the arch, which has gradually involved, certainly the innominate artery, and probably the left subclavian as well. The carotids on both sides appear to be healthy, the loud murmur heard on the right side being simply conducted along the vessel. The signs in the left subclavian suggest the presence of acute disease, and whether this is to be followed by thrombosis with consequent narrowing of the vessel's lumen and a repetition in the left arm of the conditions obtaining in the right remains to be seen. The abdominal aorta, the external iliacs, and the femorals all appear to be affected by the disease and in the right femoral the disease appears more advanced than in the left. Signs already described as existing in the right leg can be explained by a diminution of the lumen of its main artery, and in all probability there is here a condition similar to that present in the right subclavian. There is not that variability in the pulse of the leg which is so noteworthy in the arm. I have never been able to satisfy

myself that there was any pulsation at all in the right dorsalis pedis.

With regard to treatment there is not much to be said: rest and potassium iodide in increasing doses appear to be doing a considerable amount of good, but it is an open question whether the improvement will continue when the patient resumes a more active life and moves about again.

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Torquay.

THE IMPORTANCE OF THE EARLY RECOGNITION OF TUBERCULOUS MEDIASTINAL GLANDS IN CHILDREN.

BY JOHN ALLAN, M.D. EDIN., D.P.H.

IN the study of latent pulmonary tuberculosis in children we are confronted with a difficult problem, and many points have to be carefully considered in our endeavours to deal correctly with it. On examining the subject the question naturally arises, "Should tuberculosis of the bronchial or mediastinal glands be included under the term pulmonary tuberculosis?" I think there is no doubt that it should be, because in many instances the glands are primarily affected, the lung condition being secondary, but the difficulty is how is it to be diagnosed. In many instances the diagnosis of tuberculous mediastinal glands is purely hypothetical, but post-mortem evidence indicates that the condition is by no means uncommon, and that it may occur in children in whom it was not even suspected. Dr. Theodore Shennan[1] at the International Congress on Tuberculosis at Washington last year gave an interesting analysis of 1085 post-mortem examinations which had been carried out at the Edinburgh Royal Hospital for Sick Children during the last 21 years. 421 of these, or 38·8 per cent., were on children who had died from tuberculosis. He found that tuberculosis of the mediastinal glands was commonly unaccompanied by primary tuberculosis of the lungs, but was frequently accompanied by recent tuberculosis of these organs, in many cases secondary to gland tuberculosis. It is important, therefore, that every endeavour should be made to diagnose this condition, so that by appropriate treatment the progress of the disease might be checked or cured. Dr. C. Leroux[2] believes that chronic pulmonary tuberculosis in children has two modes of origin: (1) glandular, which begins clinically in the tracheo-bronchial glands and after a longer or shorter time reaches the apex of the lung; and (2) pulmonary, which begins first in the apex of the lung and is accompanied secondarily by disease in the glands. The former generally occurs in young children under 10 years of age, while the latter is most common between the ages of 12 and 15. One should therefore make every effort to diagnose glandular infection, as in view of the long truce which exists before the gland affection reaches the lung and the energetic defence which in young children is opposed to its extension there is every chance of the disease being eradicated by suitable treatment. Gland affection should be especially looked for in children at or shortly after the commencement of their school life. The question at the present time becomes all the more urgent since, with the development of the medical inspection of school children, there will be greater opportunities for the examination of children; and it is to be hoped that any suspicious cases will be picked out and referred to the family medical attendant for fuller investigation. It seems probable that quite an appreciable percentage of the present wastage of useful lives might be prevented if these cases were early recognised.

[1] See THE LANCET, Jan. 30th, 1909, p. 315.
[2] British Journal of Children's Diseases (Abstract), March, 1908.

The general symptoms of tuberculosis must be carefully analysed when we come to consider the diagnosis of tuberculous mediastinal glands, and one may expect to find the usual symptoms of wasting, anorexia, accompanied, perhaps, by irregular pyrexia. The symptoms suggestive of tuberculosis in children are legion, and unfortunately there is no symptom which can be relied on to indicate that the child is phthisical. My own experience has been that afternoon fever, shown by flushed face and tired feeling, is fairly significant of tuberculosis. In all cases of tuberculosis in children which have come under my notice, and in which there was no doubt regarding the diagnosis, this symptom was well marked. Another important symptom is anæmia. In non-tuberculous conditions in which there are symptoms suggesting tuberculosis there may be pallor, but marked anæmia in an emaciated child is, as a rule, only met with in a phthisical subject, provided, of course, the different varieties of anæmia of childhood can be excluded. Loss of weight is undoubtedly a symptom of the tuberculous, but it is also a symptom of many other conditions. To be of any use the record of the child's weight over some months must be studied, and any child suspected of being consumptive ought to be regularly weighed. A child who is being treated as tuberculous and whose weight steadily falls or even remains stationary may be regarded as in all probability the subject of phthisis. In no other chronic lung condition (except in very exceptional cases) will weight fail to increase with treatment. Night sweating, dyspepsia, anorexia, &c., are other symptoms, but all that can be said is that they may afford confirmatory evidence, and in the majority of cases they are due to conditions which are non-tuberculous.

Passing on, we come next to the symptoms and signs more especially associated with the particular variety of tuberculosis at present under discussion. Perhaps the most valuable local symptom is the presence of a spasmodic cough. This cough consists of a number of sharp, short expiratory efforts followed by a long-drawn inspiration. The cough is very similar to that met with in whooping-cough and may easily mislead the uninitiated. A history of a previous attack of whooping-cough will tend to exclude that disease and will favour the diagnosis of enlarged bronchial glands, because a second attack of whooping-cough in the child is rare. Again, if this spasmodic cough persists after an attack of whooping-cough it is wise to suspect that its continuance may be the result of enlarged bronchial glands. The only other condition which is likely to give rise to a similar cough is bronchiectasis, but this is not often met with in children. The signs of cavity formation and the copious intermittent and fœtid expectoration should be sufficient to establish a diagnosis. Except in old-standing and advanced bronchiectasis there is not the same emaciation nor anæmia that there is in tuberculosis. In early enlargement of the bronchial glands physical signs are absent, but one has only to remember that these glands are small and deeply situated in the mediastinum, and this apparent anomaly is explained. However, there may be on percussion dulness behind the manubrium sterni. This dulness, according to Dr. Robert Hutchison,[3] extends outwards towards the apices of the lungs and downwards towards the heart. If the enlarged gland causes constriction of the main bronchus quite a definite train of physical signs may be detected. One of the earliest signs of constriction of a main bronchus is diminution of vocal fremitus. Later the vocal resonance is impaired, the breath sounds are feeble, and the chest expansion is defective. If the pressure is sufficient to prevent the entrance of air or if one of these large tubes has been plugged by a caseous mass there is an absence of respiratory murmur over a single lobe or over an entire lung. Dr. L. Emmett Holt[4] considers that this sign is of great diagnostic value, but it is not often present. Dr. R. A. Young,[5] while admitting that there may be weak breathing over the whole of one lobe, mentions that even in these cases it is well to remember the functional irregularity of the diaphragmatic movement in children, which can be readily observed with the X rays, and to examine the chest on several occasions to see if the alteration is a permanent one. Grancher's sign is very variable and cannot be relied on. This is a permanent alteration of inspiration at one apex, and was considered by

[3] Lectures on Diseases of Children.
[4] Diseases of Infancy and Childhood, 1905.
[5] Brit. Med. Jour., March 7th, 1908.

Grancher to be quite sufficient to indicate this condition. He describes three stages in this alteration—namely, weakening of inspiration, and later bronchial breathing with bronchophony. The phenomenon is essentially an asymmetry of inspiration. D'Espine[6] states that in the normal child bronchophony ceases at the level of the spine of the seventh cervical vertebra, while in these cases it may be heard down to the level of the fourth or fifth dorsal spine. Other two signs may be mentioned—namely, distension of the veins of the neck and Eustace Smith's bruit. The former is caused by pressure of the bronchial glands on the superior vena cava, while the bruit is heard in the veins on placing the stethoscope over the manubrium sterni. Dr. Smith points out that the bruit is best heard when the child bends back its head. The signs are generally only present when the glands are much enlarged, and it is by no means uncommon to find post mortem considerable enlargement of these glands without there having been any physical signs during life. In the opinion of Dr. Young the coexistence of several of these signs, especially if one of them be dulness in the interscapular region with a positive tuberculin reaction, renders the diagnosis highly probable.

In the investigation of any case of a child supposed to be consumptive it is most important to take into account the family history as regards tuberculosis and also the history of definite exposure to infection. It is the fashion in some quarters to ridicule the idea of heredity playing any part in the tuberculosis problem. Even if the transmission of tuberculosis from parent to child be not admitted, surely it may be said that the child of a tuberculous stock will have a predisposition to the disease. It is doubtless true that the child is infected from some other person who has phthisis, or through the medium of milk, &c.; but to exclude all possibility of hereditary taint is incorrect. Dr. T. N. Kelynack[7] evidently holds this opinion, for he writes: "While, however, the tuberculous seed is quite exceptionally transmitted from parent to child, a tuberculously disposed soil is undoubtedly inherited." If there has been phthisis in the family then the child will almost certainly be more liable in adverse circumstances to contract the disease on exposure to infection than a child whose family history sheet is unmarred by the presence of pulmonary tuberculosis. If two children of the same age were taken, the one having a family history of consumption, the other having no such history, and if these children became exposed under as nearly similar conditions as possible to infection by tubercle bacilli, then surely the child who had the increased premium of tuberculous taint on his life would be the first to contract the disease. Other things being equal, the child with a tuberculous family history requires careful medical supervision, and any suspicious symptoms in such circumstances should not be regarded too lightly.

We can make use of several diagnostic aids in the elucidation of the case. For instance, the subcutaneous injection of tuberculin controlled by the opsonic index estimation is a diagnostic agent of much value. Unfortunately the elaborate technique required militates against its more general employment. The ophthalmo-reaction of Calmette and von Pirquet's cutaneous reaction are useful and the general opinion is that they are reliable. The former appears to be the more reliable, but a number of cases have been placed on record where serious inflammatory mischief has occurred in the eye as a result of the application of Calmette's test. The blood may be examined for eosinophile cells, which are said to be absent in early tuberculosis. Dr. R. C. Rosenberger[8] has recently demonstrated the presence of tubercle bacilli in the blood of the tuberculous, and he believes that they appear in this medium at a very early period. An X ray examination should never be omitted. Dr. David Lawson,[9] Dr. C. W. Cunnington,[10] and others have testified to their value, though such a high authority as Professor A. Calmette[11] believes that they reveal only old lesions. Cunnington points out that in the "right oblique" position we get an excellent view of the posterior mediastinum, which appears as a triangular light space, bounded by the heart in front and above, the aorta and spine behind, and the diaphragm below. This area in health is clear and becomes markedly luminous on deep inspiration. When the retro-cardiac glands are enlarged the space remains dark. This phenomenon occurs very often in sickly anæmic children, and we cannot be surprised when, only too often, such children ultimately fall victims to consumption. They are described as having a "tendency to consumption." The X rays tell us that in reality they already carry the germs of the disease within them. Cunnington thinks that with this diagnostic weapon a patient should no longer be labelled "Query early consumption?" and he very pertinently remarks that we must look for the answer by the light of the X rays, remembering that "coming events cast their shadows before." The chest should not only be examined by the fluorescent screen, but should also be photographed. By the former method the movement of the diaphragm and any area of shadow can be studied. By means of the photograph we obtain impressions of very small areas of disease, too small to show on screen examination.

From the above brief consideration of this important subject it will be clearly understood that the diagnosis is a matter of great difficulty, but the value of the early recognition of tuberculous bronchial glands can hardly be over-estimated. All children who are "physiologically delicate" should be suspected of being phthisical, and every method at our disposal should be employed to assist in coming to a positive decision regarding the case.

Edinburgh.

[6] La Clin. Infant., March, 1907, No. 6.
[7] Brit. Med. Jour., Sept. 21st, 1907.
[8] American Journal of the Medical Sciences, February, 1909.
[9] Transactions of the Edinburgh Medico-Chirurgical Society, 1903, and The Practitioner Special X Ray Number, 1906.
[10] The Hospital, May 11th, 1907.
[11] Brit. Med. Jour. (Epitome), Nov. 21st, 1908.

A CASE OF CARCINOMA OF THE VERMIFORM APPENDIX.[1]

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IN the routine histological examination of appendices removed at operation it is not uncommon to find the lumen narrowed or occluded by strictures the result, as a rule, of post-ulcerative cicatrisation. Sometimes these strictures are only detected when longitudinal sections of the organ are examined microscopically, there being no external evidence such as diminution of the circumference of the appendix at the seat of the occlusion; but occasionally the stricture is apparent externally by a deep constriction. Usually the appendix becomes distended beyond the stricture and various pathological changes take place therein. In the present case there is not merely a constriction but the appendix is completely divided into two segments, and in the sequestrated distal portion there is present an unmistakable carcinoma.

Carcinoma of the appendix is a condition which has been recognised for a considerable time, but as regards the earlier cases there is some doubt, owing to the want of any histological examination and also to the fact that in some it was quite possible that the disease was secondary. However, now that it is customary to have all appendices removed at operation submitted to microscopical examination, the cases reported have become more numerous and their nature has been placed beyond doubt. An excellent summary of the literature and cases on record until 1906 was given by Rolleston and Jones in their paper on Primary Malignant Disease of the Vermiform Appendix, read before the Royal Medical and Chirurgical Society in February, 1906, from which the following list of cases has been taken. The first case of malignant disease of the appendix was reported by Merling in 1838; the next case (Prus) was reported in 1865; and two years later four cases of carcinoma were reported by Rokitansky. All of these cases, however, must be considered doubtful owing to the absence of histological examinations. The next case of carcinoma was recorded in 1875 by Kolaczek, but here the tumour involved the cæcum also, and it is possible that this was its primary seat. In 1880 Bierhoff reported a case, but in this instance there was tumour in the rectum and other organs, so that we cannot exclude the appendicular growth from being secondary. In 1882 the first undoubted case was recorded by Beger. In 1883 another case was reported by Maydl, but no details are given.

[1] Sections of the appendix were shown at the Pathological Society of Great Britain and Ireland at their meeting held at Glasgow on July 9th and 10th, 1909.

In Draper's case in 1884 the cæcum was involved, and so it also must be considered doubtful. The next case was recorded in 1896 by Stimson. In the following year 4 cases were reported, but one of these is rather doubtful. In 1898 another case (Wright's) was recorded, whilst there were reported 8 cases in 1900, 4 cases in 1901 (one of which is doubtful), 3 cases in 1902, 3 cases in 1903, 2 cases in 1904, and 4 cases in 1905, all of these being probably true primary carcinomata of the appendix. Apparently the condition has never been diagnosed before operation or post-mortem examination, and this is not suprising, because in the great majority of cases the symptoms have been those only of appendicitis.

The patient from whom the present specimen was obtained is a man, 49 years of age, who until recently had enjoyed good health. The first illness occurred three years ago, when he was confined to bed for 14 days with an attack resembling influenza. In January, 1909, he was seized with a similar influenzal attack, characterised by shivering and backache. He had to go to bed, where he remained for two weeks, and, improving greatly, three weeks later he was able to resume work. But from about this time he continued to lose flesh. About three weeks before admission to hospital he was seized with a similar attack, with fever (at onset only) and vomiting. His medical attendant on this occasion suspected the appendix region, and found there was tenderness on pressure at this place.

The patient was seen by Dr. T. K. Monro in consultation on May 4th, 1909. He had been obviously losing strength considerably; there were progressive failure of health and weakness, with considerable loss of flesh; and, taking everything into consideration, Dr. Monro came to the conclusion that these were incompatible with the condition being one of simple appendicitis. He had a suspicion that the patient was suffering from some malignant disease in the appendix region, not necessarily in the appendix because of its great rarity, but probably in the cæcum. For these reasons Dr. Monro advised his removal to hospital for observation. He was admitted to Dr. Monro's wards at the Royal Infirmary here on May 11th. On the 13th he was transferred to Mr. H. Rutherfurd's wards for exploratory operation. When examined on the 18th by Mr. Rutherfurd before operation the only suggestion of appendicitis was the persisting tenderness in the right iliac fossa. Pain had quite gone, and there was no recognisable tumour. The abdomen was opened in the usual way. The appendix was rather bulbous and hard, adherent, running inwards and partly buried in adhesions of the small bowel and mesentery. About it, when separated, was seen some whitish material like the incompletely absorbed remains of an abscess. The appendix was cut away, and the stump was inverted in the usual way. The wound healed by primary union, and the patient was dismissed well on June 5th, and has since remained well. Mr. Rutherfurd states that at the operation there was nothing found which in any way suggested to him that there was any malignant disease present in the appendix, cæcum, or the neighbourhood.

The appendix was sent to the Pathological Department of the Glasgow Royal Infirmary for examination after it had been fixed in formalin and preserved in spirit. It was shorter and thicker than the normal, and it was completely divided, transversely about its middle, into two distinct segments, proximal and distal, which were held together only by the meso-appendix. The two segments were almost equal in length, but the proximal was slightly the longer of the two. For purposes of examination the appendix was divided in its long axis; one-half, consisting of the two segments, was embedded in paraffin and cut into longitudinal sections. Transverse sections were also prepared from the distal segment of the other half.

Microscopical examination of longitudinal sections.—Proximal segment.—All round the appendix in the peritoneal coat there is evidence of recent inflammation. The meso-appendix shows marked evidence also of fairly recent inflammation—there is abundant lymphocytic exudation; the adjoining muscular coat of the appendix is also superficially infiltrated with these round cells. The muscular coat shows some fibrosis, and there is thickening of the submucous fibrous layer, probably the result of some former acute attack. The mucous membrane shows an overcrowding with lymphocytes, but there is no evidence of acute inflammation; the mucous membrane is fairly well preserved. There is not the slightest trace of carcinoma in this segment.

Distal segment.—Externally this segment also shows signs of recent inflammation. There is no lumen; the mucous membrane is altogether lost, and its place and the cavity are occupied by a characteristic carcinoma. The muscular walls are thickened and fibrosed, and just at the tip of the appendix the submucous layer is seen to be replaced by fat. At the distal end of this segment, within this submucous layer and replacing the mucous membrane, there is seen the carcinoma arranged in large masses in the alveoli of a firm but scanty fibrous stroma, and filling up the whole lumen. Around the tip the wall of the appendix is not involved by the growth. From the distal end the growth extends proximally right to the division between the two segments but no further. It spreads laterally through the walls of the appendix to the peritoneal surface, and it is quite possible that it has extended by continuity into the surrounding adhesions.

Carcinoma of vermiform appendix. Transverse section at tip. × 75.

The cells are columnar; they are arranged in alveoli and form in most places solid masses of cells, no trace of a lumen being visible. In some parts the cells are seen several layers deep surrounding a small central space, in this way simulating tubules. Towards the tip of the appendix the alveoli are much larger than they are proximally, the masses of cells correspondingly being much larger. The fibrous stroma is rather scanty near the tip, but proximally it is more abundant and denser, and the tumour here has a resemblance to a scirrhous carcinoma. In the centre of what was once the lumen of the appendix the alveolar arrangement of the cells is fairly well preserved, but peripherally the normal limits of the tubular growth are broken, and cell-processes are seen extending out in all directions. At and around the tip of the appendix the carcinoma is limited within the submucous layer and does not send out processes into the muscular wall; but proximally, from within a short distance of the tip, it is seen to break through the submucous coat and to sprout out into the muscular coats. These processes are composed of solid masses of cells not quite so tall as the cells in the central part of the tumour, approaching more to a spheroidal form, and they are seen infiltrating the muscular coats right up to the peritoneal surface. The infiltration in the muscular wall looks like a lymphatic permeation, the cell-processes in places being seen passing through between some of the muscular fibres, in the hiatus musculares described by C. B. Lockwood. The microphotograph is taken from a transverse section near the tip of the appendix and is magnified 75 times. It shows the large cell masses of that situation arranged in the alveoli of the rather scanty fibrous stroma. In a few of the smaller alveoli the tubular arrangement of the cells around a central lumen is apparent. The section also shows the carcinoma

invading the muscular wall, a solid process of cells being seen above and to the right infiltrating the muscle.

There are one or two points of special interest in this case that are worth emphasising. While carcinoma of the appendix in itself is a rare condition, the situation of the tumour in this case is quite unique. The appendix has been divided into two segments, in all probability the result of cicatrisation, and in the sequestrated distal portion the carcinoma is situated. This is of interest in view of Ribbert's theory of tumour formation—viz., that tumours arise from a partial or complete separation of cells or groups of cells from their organic continuity, in other words, from mechanical isolation. Although the condition has never been diagnosed, two cases in addition to the one reported above have been suspected beforehand. These two cases are mentioned by C. B. Lockwood in his article on appendicitis in Allbutt's "System of Medicine." In one instance cancer was suspected on account of the family history of cancer; and in the other on account of the marked anæmia, wasting, and loss of energy. This latter corresponds to the present case, in which there were obviously considerable loss of strength, progressive failure of health and weakness, in addition to the localising symptoms, all of which raised Dr. Monro's suspicions. In nearly every instance the symptoms have been those of one or other form of appendicitis, and as all medical men are now alive to the dangers of this condition and the advisability of early removal of the appendix, it is probable that to this is due the favourable prognosis in these cases. I am indebted to Dr. J. H. Teacher, Dr. Monro, and Mr. Rutherfurd for permission to publish this case.

Glasgow.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

FATAL CASE OF SEPTICÆMIA ILLUSTRATING AN IMPORTANT FACT WITH REGARD TO THE LYMPHATICS OF THE UPPER LIMB.

BY W. BARRIE BROWNLIE, M.B., CH.B. GLASG.

A FARM labourer, aged 25 years, was seen on May 22nd by my chief, Dr. C. N. Thomas. The patient was suffering from a painful swelling below the left clavicle. It had appeared two days before Dr. Thomas saw him. As the patient looked very ill it was thought advisable to remove him to the Lydney Hospital, to which place he was taken the same night. The temperature on admission was 100° F., and the pulse was 130. When I saw him on the following day I found that the infraclavicular fossa on the left side was filled up by a diffuse, hard, red swelling shading off into the surrounding skin. There was no fluctuation even on deep pressure. Considerable œdema was present, especially at the margins of the swelling. The shoulder-joint was quite free from pain on movement. There was no thickening of the clavicle, nor was any pain elicited when deep pressure was made over that bone. The axilla was quite free from glandular enlargement, and the inflammatory swelling had not invaded that region. Examination of the lungs showed nothing abnormal. The state of the pulse suggested that there was some severe microbic infection. There was a history of the man having had some inflammatory lesion which had gone on to suppuration round the nail of the left forefinger a fortnight ago, and although this had now quite healed up one could easily make out that there had been some acute inflammation in that region. As we could find no other point of infection we came to the conclusion that this was a case of acute lymphadenitis of the costo-coracoid glands following on a paronychia of the left forefinger. On the evening of the 23rd the patient seemed a little better, the pulse having somewhat subsided. On the 24th the pulse had again risen, this time to 140; the temperature still remained 100°. The swelling and œdema had now extended over the sternum to the right side of the chest, downwards to the nipple, and over the clavicle and shoulder. The same night the patient had a rigor, the temperature shooting up to 104°, and although no fluctuation could be made out it was decided to open up the parts. The swelling was now covered with large vesicles filled with blood-stained serum. An incision about 3 inches in length was made in the interval between the pectoralis major and the deltoid muscles. Although a deep incision was made and the parts were opened freely by Hilton's method, no pus was found, only blood-stained serum coming away. Owing to the gangrenous condition of the parts, the muscles being swollen and flabby and the patient not feeling the incision, a bacteriological examination was made of the fluid which came away, but only streptococci were found. A large drainage-tube was inserted and the region was kept moist by a wet cyanide gauze dressing. On the next morning (the 25th) the patient had another rigor, and another swelling, of a similar nature to that on the chest, appeared on the right side of the neck behind the angle of the jaw. The nature of this was somewhat obscure; probably it was a thrombosis of the internal jugular vein. The pulse was scarcely perceptible and the patient died on the night of the 25th, the intellect being perfectly clear to the end.

In a general way we understand that an inflammation of the finger may spread to the glands of the axilla, although it is mentioned in some anatomical books that some of the lymphatics from the backs of the fingers may go along with the cephalic vein to the costo-coracoid group of glands in the infraclavicular fossa. This is a point which is not sufficiently emphasised, and several of these cases have been demonstrated to me, as a student, by Dr. Farquhar McRae of Glasgow. The lymphatics of the posterior aspect of the thumb, forefinger, and radial side of the middle finger frequently, though not invariably, with those of the radial side of the back of the forearm and back of the shoulder, go to the costo-coracoid glands, and this was the path of infection in this case. This state of affairs is perhaps more dangerous to the patient, as the costo-coracoid glands are nearer the great veins of the neck and also a step nearer the thoracic duct, as some of their efferent lymphatics empty directly into the subclavian vein (Quain). Perhaps one might argue that the paronychia of the left forefinger had not caused the blood-poisoning in this case, as that lesion had occurred a fortnight ago and the wound had quite healed up by the time the swelling on the front of the chest appeared; but we know well enough that organisms can lie quiescent in a gland until some slight injury may cause them to set up a severe inflammation. This seems to have been the sequence of events in this case, as the clear history of the paronychia a fortnight ago and the presence of a recent scar at the time of examination decided us in coming to no other conclusion.

I do not think that an earlier incision into the swelling would have saved the patient's life, as it was an inflammatory œdema and could scarcely be called an abscess, a condition of affairs which we would quite expect from an organism like the streptococcus The infection was of such a virulent nature that I do not think antistreptococcic serum would have done any good in this case.

Lydney, Gloucestershire.

A CASE OF TUBERCULOUS TESTICLE IN A CHILD AGED SIX MONTHS.

BY W. F. CHOLMELEY, F.R.C.S. ENG.,
HONORARY SURGEON TO THE WOLVERHAMPTON GENERAL HOSPITAL.

ON July 24th I was consulted about a child, aged six months, with a swollen, red, and very painful scrotum. The history given was that the swelling had been first noticed on the 19th and was supposed to have come on after an injury. On examination the scrotal tissues on the right side were found to be very inflamed and swollen but so painful that it was not possible to say if the testicle was affected. The child looked healthy and had been so since birth. The cord seemed to be slightly thickened. The child was admitted into the hospital and I ordered hot fomentations. The case improved very quickly, but on account of an outbreak of measles in the ward the child had to be sent out on July 28th before he was quite well. While outside the pain and swelling increased and became so bad that I had to admit the child again on August 4th.

The note made at that time is as follows: "The skin covering the left half of the scrotum is much reddened, and there is a large tender swelling occupying the natural position of the testicle, evidently an inflammatory enlargement of

that organ. The cord feels thickened; the vas deferens cannot be felt. The temperature is normal." Thinking that it might be a case of torsion of the cord I decided to explore. On August 6th an incision was made in the inguinal region and the testicle in its thickened and distended tunica brought out into the wound. The layers over the tunica were much thickened and on opening it a quantity of turbid fluid escaped. The opening was enlarged and the epididymis was seen to be much enlarged and overlapped the body of the testicle. Under the globus major was a small collection of tuberculous-looking pus. I therefore removed the testicle. A section of the organ after removal showed numerous small caseating foci in the epididymis; the body of the testicle appeared to be healthy. Unfortunately, on August 11th the child developed measles and later broncho-pneumonia and died on August 19th.

A post-mortem examination was made and tubercle was found in the following organs: in some bronchial glands, in the left pleura, in both lungs, especially in the left, where there were some caseating foci, in the mesenteric glands, and in the left kidney, which was hardly developed at all. There was no tubercle found in the head or in the region of the bladder. Part of the testicle was sent to the Clinical Research Association and they reported as follows. "This testicle shows large inflammatory areas and a considerable degree of fibrosis. The inflammatory areas contain caseating foci and show some atypical giant cell systems. Although we cannot find any tubercle bacilli we feel sure the lesion is tuberculous."

Wolverhampton.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

SURGICAL SECTION.

President's Address.

A MEETING of this section was held on Oct. 13th, Mr. RICKMAN J. GODLEE, the President, being in the chair.

The PRESIDENT, in delivering his Address, said that prognosis in some of the common inflammatory diseases of the chest belonged at least as much to the physician as to the surgeon. The first and simplest condition was that of serous effusion into the pleura associated with acute pleurisy. They would all agree that patients who had had one attack of acute pleurisy with effusion and had been tapped once or twice, or not tapped at all, usually left the court without a stain upon their characters. They were admissible by insurance companies at normal rates, and the only record that remained (and that not always) was a slight departure from the normal physical signs, and perhaps of the mobility of the side that had been affected. The acute onset usually stamped their simple character. It was different when the onset was insidious. It had sometimes been suggested that most of the insidious cases were tuberculous. But it was no more true that they were all of that nature than it was that all the tuberculous effusions were insidious in their onset. He would expect an acute case to be caused by some septic organism and would be suspicious that a chronic one would turn out to be tuberculous even if no tubercle bacilli were found microscopically or by inoculation, with the mental reservation, however, that it might depend on a new growth. What was the outlook if a normal pleura was opened and drained? It had often been stated that an abscess of the liver might be safely opened through a normal pleura without any special precautions for closing the opening. This was not his experience. He had seen it followed by fatal results in septic cases or by very slow healing in amœbic ones. That was why he avoided injuring the pleura if possible and carefully closed the wound if it had been made. Were they justified, then, in incising and draining serous effusions that re-accumulated? To that different answers would be supplied. For himself, he was so afraid of leaving a permanently open pleura with collapsed lung that he advised repeated tapping, even up to seventy times seven, tedious though the process was. An effusion which was undoubtedly tuberculous need not necessarily involve a very grave prognosis, one tapping being sometimes enough to effect a cure. Passing to the subject of empyema, he first offered some general remarks about the acute empyema of infancy. In 1886 he gave statistics when he was surgeon to the North-Eastern Hospital for Children and the average time for closure was six weeks. But that did not represent the usual course of things, three or four weeks was a common time for an acute empyema, and ten days or a fortnight was not rare, while a good number were cured by a single aspiration. The average was obtained by including the chronic cases. He did not gather that much better results were obtained now, although one might imagine that each successive writer on the subject had discovered some new panacea. A free opening, good drainage in the recumbent as well as the erect posture, the complete removal of all fibrinous masses, and the exercise of a wise judgment in removing the drainage-tubes were essential to success. The precise spot to half an inch at which the opening was made, the introduction or not of the gloved finger, and the presence or absence of an antiseptic material in the dressings were matters of less vital importance. The soft chest walls of children and the elasticity of all their structures, and perhaps their more active vital power, seemed to favour the rapid closure of an empyema. Such cases were, he believed, common, almost typical, and he wished the medical officers of insurance companies would tell them something about them. They must apply for life insurance, and one would like to know whether any increased rate was imposed upon them. He should himself not advise it. He was afraid the particular answers desired were not to be obtained from insurance companies. It did not help them to know the average age of the patients insured (say in the Scottish Widows' Fund) who died from pleurisy and empyema, and it did not seem possible to obtain information as to the results from the point of view of the insurance companies of accepting proposals from those who had suffered from hydrothorax or empyema in childhood. Turning to acute empyemas in adults following acute pneumonia or pleurisy, the immediate prognosis as regards life depended upon the extent of the preceding disease and the amount of septic poisoning. The latter was indicated by the character of the pus; if that was sweet and only contained pneumococci the patients did not necessarily present what might be called an obviously septic appearance. If they did, and the pus was odourless it probably contained streptococci or staphylococci. If it stank there had probably been a rupture of a pulmonary or subdiaphragmatic abscess into the pleura. The pneumococcus cases if treated carefully antiseptically he thought did the best, especially if the lung was still somewhat solid from the pneumonia and the cavity was localised; but he had often seen (especially in hospital) a secondary pyrexia associated with a secondary septic infection. It was remarkable how well many of the stinking cases did. Some of the very worst septic ones might be snatched from death by continuous or repeated saline infusions or transfusions. Undoubtedly the great majority of those cases survived the operation, and he was not concerned with the small number who died within a few hours or days of it. An accurate prognosis as to the date of closure was impossible. Speaking generally, it might be said that the least favourable cases were those in which the cavity was large, or the lung was much collapsed, or the chest walls were very rigid, and those in which there was a very free communication with a bronchus. His own opinion was that those which were opened laterally were more likely to be slow in healing or to require a second opening than those which were incised posteriorly. So he thought that the prognosis was to some extent governed by the surgery. One would naturally expect that old people would do worse than young ones, but some healed remarkably quickly. Of the cases that healed the great majority remained well or had very slight inconveniences left behind. A small number had recurrences and some developed bronchiectasis. Although it was an undoubted fact that a small proportion of empyemata which burst into a bronchus recovered completely in the course of a few days or weeks, and that such a cure might be permanent (he had records of one case who remained well after 17 years), it might be stated that the majority of them required an external incision. But in most of those the fistula quickly closed and healing occurred as if there were

no such complication. It would be remarkable that such a result might be obtained even though the external opening had been long delayed if they did not remember what occurred in the treatment of pulmonary abscesses. It was probable that some of the cases in which a permanent fistula remained were complicated with bronchiectasis. These might not only survive but retain good health for years. He had seen several such cases and had attempted (unsuccessfully, however) to close the fistula. But some of them succumbed to complications after improving for a time. In those one should be on the look out for tubercle. He next considered a small class of cases which healed readily and rapidly and remained well for longer or shorter periods—months, or perhaps years—and then the trouble recurred, and perhaps not only once but on several occasions. No doubt a spicule of dead bone was sometimes the cause, or a ligature, or perhaps a minute piece of necrosed tissue, but one often failed to discover such a foreign body. One recurrence need cause but little anxiety, but a second or third should make one speak doubtfully. Sometimes the healing process came to a standstill because the drainage was imperfect or because the cavity was too large. The latter condition might be anticipated where no adhesions had formed, and especially where none existed between the base of the lung and the diaphragm or the inner surface and the mediastinum. Those most unpromising cases resulted from the rupture of a pulmonary infarct, a liver abscess, or something of that sort into a previously healthy pleura. The immediate outlook there was serious, as if not quickly opened the patient might die within a day or two. The ultimate prognosis was also grave, as the cavity was sometimes so large that it could not be closed by the most extensive thoracoplasty. Should the thoracoplasty succeed, the prospect was, he believed, as good as that of an empyema which had closed by natural processes. It should be observed that extensive thoracoplasties were not without their dangers, such as shock, septic absorption, and cerebral abscess. Tubercle was the commonest cause of the non-closure of empyemata of moderate size; sometimes that was because a calcareous gland, or a calcareous plate, or a piece of necrosed bone was hidden away in the depths of the cavity; sometimes apparently it was simply because the tubercle bacillus was present. Perhaps others could say something about the influence of tuberculin injections on the prognosis. He regretted that he had as yet no valuable information to offer. Some tuberculous empyemata or empyemata in tuberculous subjects closed after incision. But though those good results were not uncommon, it was not safe to prognosticate too favourably for such people. It was fortunate, however, that one could honestly tell them, or at all events their friends, that a comparatively comfortable and possibly a prolonged life might be in store for them, and unnecessary to dwell upon the fact that an extension of the tuberculous process to other parts not infrequently occurred. Estlander's operation was, in his experience, risky and seldom successful in tuberculous cases, even if the cavity be small. Still, as it occasionally succeeded, one was sometimes tempted to offer the chance; but it was certainly not right to speak confidently about the result. Caries of the spine was not a common cause of empyema, and when the combination did occur the prognosis was certainly worse than that of uncomplicated Pott's disease. But even those cases were sometimes remarkably chronic. With regard to bronchiectasis, he passed over bilateral cases because they seldom, if ever, admitted of surgical treatment. They had to deal with unilateral bronchiectasis depending sometimes on the temporary or permanent lodgment of foreign bodies, and sometimes on other preceding diseases of the lung or pleura. Mr. Godlee recited briefly a few cases, showing how long they might go on, and to what extent improvement might take place. He summarised his experiences thus: 1. That patients with considerable bronchiectasis, whether operated on or not, might live for a great many years in spite of the continuance of the expectoration. 2. That severe and recurrent hæmorrhage was a common symptom. But he had only known one patient die as a result of it, and that was an old man with a very septic state of things whose lung he had freely incised. 3. That in some cases, such as very localised ones or those caused by the inspiration of foreign bodies, drainage of the abscess might effect a cure, but more often attempts at surgery only led to temporary relief. He had no personal experience of the removal of the affected portions of lung, but such operations were reported from Germany, and with a measure of success, and, it must be added, with an appreciable mortality. 4. The risks of operation were septic absorption, including cerebral abscess and hæmorrhage. It would be interesting to hear what was the chance of life in the purely medical cases. Of such he had seen a considerable number, but usually only once, and had had no means of following up their after-history. The late Dr. G. I. Schorstein[1] gave the cause of death in 63 cases who were admitted to the Brompton Hospital between 1882 and 1904. That did not help much in the matter of prognosis, because he did not give the duration of the disease, and of course they had no account of those people who endured bronchiectasis—say, like gout—as one of the accidents of life and who did not come into hospital to die from it, and, in fact, perhaps died from old age or some other complaint. There were, however, three points of much interest. One was prepared to find that the largest number of deaths—17—were from broncho-pneumonia, but it was startling to see that 13 died from cerebral abscess and instructive that four died from hæmoptysis. In speaking of localised pulmonary abscess they were again not concerned with those cases which died outright, whether opened or not, such as some of those which occurred during an acute pneumonia or some secondary septic cases. Nor need they consider the ordinary tuberculous apical vomicæ. The point of interest was the after-history of such localised abscesses as arose in connexion with pneumonia, or embolism, or the bursting into the lung of abscesses from other parts, or the presence of foreign bodies and a very small number of tuberculous cases. He had only seen one basic tuberculous cavity close after incision. The others had benefited by operation only in so far as the expectoration was diminished. Otherwise the disease had followed its natural course. He had seen several cases where what were diagnosed as small pulmonary abscesses, which exploration failed to discover, were expectorated, and that was followed by apparently complete recovery. And he could produce the histories of several cases where, when a localised pulmonary abscess had been successfully reached, cure had followed, and the patient had remained well for many years. He believed, indeed, that such patients were no worse off than they were before. The cautious prognosticator would not forget that it was not only in the case of serous effusions, but also that of empyemas and pulmonary abscess that carcinoma and actinomycosis had to be thought of. As to actinomycosis, it was a fruitful cause of error, and nothing but great watchfulness would prevent mistakes, which not only endangered the chances of the patient but the reputation of the medical attendant. Perhaps he would be thought to be giving too hopeful an account of the probable future of patients after a pulmonary abscess. It was impossible to say that some cases of bronchiectasis following obscure pulmonary conditions might not depend upon such a cause, but he had no facts to offer pointing in that direction. He wished he could give any guide as to the likelihood of the occurrence of cerebral abscess, which so comparatively often stepped in to blast the most hopeful prospects. He had seen it occur in what appeared to be ordinary straightforward cases of empyema, in bronchiectasis both acute and chronic (but only after operation), in gangrene of the lung, and in several cases of abscesses of the lung caused by the bursting upwards of an abscess of the liver. In the valuable contribution to the subject by the late Dr. Schorstein above referred to, it was suggested that of all the diseases under discussion bronchiectasis was the most likely to be followed by cerebral abscess. One did not mention that bugbear in giving a prognosis, but it was a shadow in the background for those who had much to do with thoracic surgery, making them anxiously examine the pulse and temperature of any suppurating case who unexpectedly complained of a headache. Cerebral abscess was the end of all prognosis, and it might supervene after many years.

Dr. THEODORE WILLIAMS said that he had been a life insurance medical officer for 30 or 40 years, and with regard to old empyemata and cured pleurisies some of them had come before him in that capacity; they were rare, and as far as he could remember the custom had been that if there had been no signs or symptoms for some years they were

[1] THE LANCET, Sept. 18th, 1909, p. 843.

accepted at the ordinary rate. That was the plan in his own office, and, he believed, in some others also. But it must be clear that there had been no return of symptoms for some years.

PATHOLOGICAL SECTION.

Presidential Address.—Rhabdomyoma of Urinary Bladder.

A MEETING of this section was held on Oct. 19th, Dr. F. W. MOTT, the President, being in the chair.

The PRESIDENT took for the subject of his address the present position of the neuron doctrine in relation to neuropathology. He pointed out that a neuron consisted of a nerve cell together with all its processes, including the protoplasmic processes or dendrons, and the single axis-cylinder process with its cone of origin, its collaterals or side branches, and its terminal arborisation. The neuron theory was that the nervous system consisted of innumerable such anatomically independent nervous units in contiguity but not in continuity. There was interlacing of the processes but no network. The nervous units were genetically and trophically independent cellular organisms arranged in functionally correlated systems, communities, and constellations. The experiments of Harrison showed that ganglion cells could form nerve fibres without the aid of sheath cells, and the same observer also found that nerves separated from their cells of origin degenerated rapidly and no signs of regeneration were observed. The embryological basis of the neuron doctrine had been established beyond dispute. The formation of connexions of one neuron with another by fibrils and the passage of fibrils from one nerve cell through another nerve cell were matters of detail which in no way shook the fundamental principle of the neuron concept. The anatomical observations of Cajal and others regarding the genetic independence of the neuron had been fully confirmed by the researches of Harrison. Experimental and clinico-anatomical observations indicated that the sheath cell played an important part in regeneration after injury of the axon. The trophic activity of the spinal motor neurons was in all probability independent of stimulus arriving from other neurons. They possessed, indeed, a trophic autonomy; the observations of Harrison supported that idea, and it, moreover, accorded with the neuron doctrine of genetic and trophic independence. Direct injury of any part of the neuron caused changes but not injury to neurons with which it was functionally but not nutritionally correlated. If sections were made of the junction of the central and peripheral ends at successive periods of time three stages could be seen: first, the sprouting of large numbers of new fibres from the central cut axon; secondly, the penetration of the bridge of young vascular connective tissue joining the cut ends by the young nerve fibres; and thirdly, the penetration and growth downwards of these young fibres between the proliferated sheath cells of the peripheral portion. There could be no doubt that the new nerve fibres depended upon an outgrowth from the central cut ends of the axon. The President concluded his address by saying he would rest content if he had satisfied the members of the section that the neuron doctrine pronounced dead only a few years ago now rested on a surer basis than it ever did.

Mr. S. G. SHATTOCK exhibited the bladder of a male child, aged 2 years, from the mucous membrane of which many polypi projected. Histologically they consisted almost solely of striated muscle fibre, in all the normal stages of development from large multinucleated sarcoblasts. In discussing this unusual site of striped muscle Mr. Shattock adopted the view that heteroplasia in the case of tumours meant heterotopia, or the displacement of embryonic elements from a normal to an abnormal position. Certain of the striated fibres of the external sphincter vesicæ (Henle) lay deeply in the substance of the anterior or upper portion of the prostate, Henle's description in this respect having been recently fully confirmed by Mr. C. S. Wallace. And it was from vagrant sarcoblasts that the cells from which the striated fibres in the mucous and submucous coats probably developed. In favour of this view was the fact that the tumours were confined to the neck of the bladder, and they were almost certainly congenital.

THERAPEUTICAL AND PHARMACOLOGICAL SECTION.

Teaching of Therapeutics in the Hospital Ward.

A MEETING of this section was held on Oct. 5th, Professor A. R. CUSHNY, F.R.S., the President, being in the chair.

Sir T. CLIFFORD ALLBUTT opened a discussion on the Teaching of Therapeutics in the Hospital Ward. He said that medical men must be pioneers, they could not afford always to wait for the pharmacologists; but there must be a mutual watchfulness of each other. Much that we knew to-day to be good came from empirical knowledge; this is still going on, but our empiricism must be of the best, the knowledge of experience. He selected three examples of methods of treatment which had stood the test of modern research, but which came originally from folk-medicine, viz., digitalis; vaccination, which to-day had wonderfully expanded in other directions; and poultices, which, after suffering a period of abuse, were, through the work of Bier, seen to be fundamentally reasonable. The student must be assured that apart from pharmacological proof, there was a large tradition of empirical knowledge of great provisional service. He should be told that such and such are the means found useful in clinical experience, whether they could be scientifically explained or not. They were to go to the bedside as artists to do what they could for the patient with such lights as they had. Finally, the student must be told he has to deal with living realities. He must be (1) assured he must be no sceptic, or he would endanger his own resourcefulness; (2) given a clear idea of the *vis medicatrix naturæ;* (3) warned against the danger of the overuse of drugs, and shown how closely therapeutics depend upon prognosis.

Professor W. OSLER gave an account of the methods adopted at the John Hopkins University, laying stress on the practical advantage thereof.

Dr. HARRINGTON SAINSBURY thought that there should be more careful teaching of the history of therapeutics and of the present-day acceptance.

Dr. J. CALVERT said that there was a lamentable ignorance of incompatibility and of the ordinary simple practical methods which should all be systematically taught in the wards.

Dr. R. HUTCHISON relied more on teaching the student to be a sound diagnostician than a pharmacologist, and suggested that the time was ripe for some uniform agreement on the main lines of treatment to be adopted in certain well-known diseases, such as gastric ulcer.

Professor W. E. DIXON insisted on the advantage to the student of a sound pharmacological knowledge; and he pointed out the rational value of administering alkaloids the strength and action of which were accurately known.

Dr. A. P. BEDDARD thought it was impossible really to teach therapeutics in the wards.

Sir DYCE DUCKWORTH emphasised the necessity of imparting practical instruction to the student, such as in the giving of enemata and hypodermic injections. He deplored the multitude of new so-called remedies, many coming from abroad.

Dr. J. HACKNEY said that the student should be taught how to manage a practice, to keep books, and be given a general idea of ordinary routine work.

The PRESIDENT closed the discussion with a few remarks.

THE SOCIETY OF TROPICAL MEDICINE AND HYGIENE.

Sleeping Sickness.

A MEETING of this society was held on Oct. 15th, Professor RONALD ROSS, the President, being in the chair.

Dr. A. G. BAGSHAWE delivered an address on Recent Advances in our Knowledge of Sleeping Sickness, which is printed on p. 1193 of this issue of THE LANCET.

Dr. D. N. NABARRO said he was glad to see that the importance of the examination of the blood in the diagnosis of sleeping sickness was coming to the fore, because he was convinced that examination of the blood properly carried out was of great value.

Dr. A. BREINL (Liverpool) pointed out that too much reliance ought not to be placed on auto-agglutination. Dr.

Breinl also demonstrated sections from the brain of a monkey that died after infection with the Trypanosoma gambiense.

Dr. J. D. THOMSON spoke of the value of ethyl antimony tartrate in the treatment of sleeping sickness.

Dr. G. C. LOW said that in regard to enlargement of the glands attention must be paid to the part played by syphilis.

Dr. F. M. SANDWITH gave details of some cases of sleeping sickness which he had seen last April in the infectious wards attached to the Pasteur Institute, and he understood that no ill effect had followed the use of atoxyl.

Dr. L. W. SAMBON made some remarks on the etiology of the disease and discussed measures of prevention.

Mr. L. G. HILL described some early cases seen at the London Hospital, which the PRESIDENT said that he had seen also.

Dr. C. F. HARFORD asked if the period of incubation was definitely established.

Dr. BAGSHAWE, in the course of his reply, said that it was fairly certain that the period of incubation was not more than 10 days, and it might be less than that period of time.

NORTH OF ENGLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held in Liverpool on Oct. 15th, Dr. J. W. Martin (Sheffield), the President, being in the chair.—Dr. A. J. Wallace (Liverpool) showed an extreme example of Hydrocephalus and also a Uterus and Vagina removed for Carcinoma of the Cervix, extending superficially over the entire anterior vaginal wall. The uterus was freely moveable and there was no infiltration of the parametric tissues. The vagina was first separated from below, and its lower end invaginated and closed by a double row of sutures. The operation was completed by the abdomen, an ordinary pelvic dissection being performed. The pelvic glands on the left side were enlarged and were freely removed; those on the right were greatly enlarged and too intimately adherent to the iliac vessels to justify removal.—Dr. J. E. Gemmell (Liverpool) showed a good example of a rare fœtal monster—Symelus.—Miss Frances Ivens, M.S. (Liverpool), read the notes of five cases of Tuberculous Salpingo-ovaritis. In four the disease was apparently primary in the tubes; in the fifth there was an associated bone lesion. Dysmenorrhœa was the only symptom common to all. Dysuria occurred in four cases and menorrhagia in three. The ages varied from 20 to 36 years. In no case was the uterus removed, though both tubes were extirpated in each instance. A portion of ovary was left in all but one case. In all there has been an immediate and maintained good result, with gain in weight and freedom from pain. In one tuberculous peritonitis developed but subsided with tuberculin treatment.—Dr. Arnold W. W. Lea (Manchester) read a paper on Gastric Ulcer as a Cause of Pelvic Peritonitis, with notes of three cases. Chronic adhesive pelvic peritonitis, with more or less disorganisation of the uterine appendages, was found on abdominal section in each case. No evidence of the usual causes of pelvic peritonitis could be obtained. On the other hand, there was in each instance a history of severe chronic gastric dyspepsia, with an illness suggestive of a leaking gastric ulcer, from which the patient had recovered without an operation.—Dr. H. Leith Murray (Liverpool) read a paper on the Anti-autolytic Action of Blood Serum and its relation to Hyaline Degeneration in Uterine Fibroids. He said that small pieces of a fibroid incubated in serum very soon developed distinct hyaline change limited to the connective tissue. Muscle fibres took a purely passive part in the process. The hyaline appearance produced resembled hyaline degeneration occurring naturally, both in general microscopical examination and in staining peculiarities. The clear fluid cavities in œdematous fibroids did not result from thinning out of surrounding hyaline material, as Kelly and Cullen asserted, but the fluid in them was directly responsible for that change and could produce it *in vitro*.

ÆSCULAPIAN SOCIETY.—A meeting of this society was held on Oct. 15th, at which Mr. C. Gordon Watson, the new President, delivered an address on Recent Advances in Rectal Surgery. He said that radical operations for the extirpation of cancer of the tongue, larynx, and breast, with the glands involved, have long been established, but it is only in the last two or three years that surgeons have begun to regard the rectum as amenable to a similar form of treatment. The explanation seems to depend partly on the failure to recognise the importance of the lymphatics in the pelvis in relation to the upward extension of the disease, partly to a wholesome fear of operating through the peritoneal cavity, but chiefly to the deplorable delay in diagnosis, a delay for which the patient is not always to blame. We now have a valuable aid to diagnosis in the sigmoidoscope, which enables us to examine in the great majority of cases the lower 12 inches of the bowel. The abdomino-perineal method of excision of the rectum will be the operation of the future. It aims at removing not only the diseased bowel but also the lymphatic glands in the hollow of the sacrum and the lymphatic vessels in the mesentery of the pelvic colon, up to the bifurcation of the left common iliac artery; in fact, it aims at dealing with the rectum in the same way that the Wertheim operation deals with cancer of the uterus. Ano-rectal ulceration is the term given by Wallis to a condition constantly found in the lining membrane of that part of the bowel which lies between the anus and the internal sphincter. The lesion is a pathological condition which is the initial cause of many of the ordinary rectal ailments. It is a cause of genuine pruritus ani and of fissure, the chief cause of all ischio-rectal, submucous, and subtegmentary abscesses, and as a natural sequence the cause of all fistulæ, which are the residue of these abscesses, and finally it is the cause of those distressing cases of infective rectal ulceration which cause so much pain and misery and are so intractable to treatment. In the great majority of inveterate cases of pruritus ani a shallow ulcer will be found within the anal canal situated between the two sphincters, usually posteriorly, and they can usually be cured by the application of the actual cautery or by zinc sulphate cataphoresis.

HUNTERIAN SOCIETY.—A meeting of this society was held on Oct. 13th, when Dr. Sidney H. C. Martin delivered the first Hunterian lecture of the present session on "Certain Infective Processes in the Intestine: their Effects and Treatment." The lecturer classified bacteria having their habitat in the intestine into three groups: (1) *endogenous*, bacillus coli communis and streptococcus fæcalis; (2) *exogenous*, such as typhoid; and (3) *putrefactive*. The last class when they developed led to serious pathological results. The rôle of the bacillus coli was to counteract putrefactive bacteria; the bacillus coli and the bacillus acidi lactici prevented putrefaction in boiled milk. When introduced into the tissues the bacillus coli became pathogenic, its chemical product being an endotoxin, which produced a profound effect on the bodily temperature (lowering it) and nutrition, causing wasting. A septicæmia which sometimes followed enteric fever and cholera was due to bacillus coli. The bacillus coli tended to produce illness irregular in type and tending to get well and relapse; it acted by side infection, producing disease in the gall-bladder, pancreas, or appendix, had a direct effect on the mucous membrane, producing such conditions as mucous and ulcerative colitis, or passing into the blood stream caused pyelitis, cystitis, thrombosis, meningitis, and infective endocarditis. In his remarks on treatment the lecturer pointed out that vaccination by the bacillus coli did not always cure but produced remarkable results in some cases and instanced two cases of thrombosis, in which the effect had been markedly good. He considered big doses dangerous and recommended from 1 to 4 millions of the dead bacilli per dose. A toxic dose produced definite local reaction and swelling.

OVERCROWDING IN LAMBETH.—A case recently came before the notice of the Lambeth board of guardians, the medical significance of which is considerable. The occasion was the application for outdoor relief by a family of three, consisting of the parents and a child, aged seven years, all of whom lived in one back room of insufficient size. The wife was in an advanced state of pregnancy, while the husband had been certified to be suffering from chronic phthisis. Despite the very strongly worded appeal of the chairman of the board to the man to go into the infirmary and not endanger his wife's health by continuing to live in the same room with her, the applicant refused to leave his wife, saying he could earn a little, and eventually the board granted 3*s.* in money and 3*s.* in food per week relief.

Reviews and Notices of Books.

A System of Medicine by Eminent Authorities in Great Britain, the United States, and the Continent. Edited by WILLIAM OSLER, M.D. Oxon., F.R.S., Regius Professor of Medicine in the University of Oxford; assisted by THOMAS MCCRAE, M.D., F.R.C.P. Lond., Associate Professor of Medicine and Clinical Therapeutics in the Johns Hopkins University, Baltimore. Vol. VI. London: Henry Frowde and Hodder and Stoughton. 1909. Pp. 799. Price 30*s.* net per volume, or 24*s.* net per volume to subscribers.

IN this volume a variety of conditions are described—namely, diseases of the urinary system, diseases of the ductless glands, diseases of the muscles, vaso-motor and trophic disorders, and diseases "of obscure origin." The principles of life insurance are also discussed from the medical standpoint.

Part I. is concerned with Diseases of the Urinary System. "An Introduction to the Diseases of the Kidney" is written by Dr. J. McCrae (Montreal), who refers to certain points in the physiology and pathology of that organ. The same author also considers the malformations and circulatory disturbances of the kidney, including under the latter title anæmia, hyperæmia, and thrombosis of the renal vessels and infarcts of the kidney.

Dr. A. E. Garrod (London) contributes an interesting article on Anomalies of Urinary Excretion. In addition to entering upon an able discussion on the various aspects of albuminuria, pyuria, phosphaturia, and other commonly occurring phenomena, he also describes more rare conditions, such as hæmatoporphyrinuria, alkaptonuria, and cystinuria. Dr. Garrod is also responsible for the chapter on uræmia. He is forced to the unsatisfactory conclusion that, in spite of the large amount of patient research which has been expended upon the problem of the nature of uræmia, from the days of Bright and Addison down to the present, no solution yet proposed has met with general acceptance, and the cause of the condition still remains unknown. He passes in review the various theories that have been suggested, drawing attention to one of the most recent—namely, the production of nephrolysins, a proposition which has been advocated by Ascoli and others. It has been shown that just as when bacteria find their way into the animal organism, substances antagonistic to them are produced, so also when cells of a particular organ are injected under the skin, or into the peritoneal cavity, substances antagonistic to the special cells are found in the organism. Some of these cytolysins have been carefully studied, but the nephrolysins have not been so generally recognised. When broken-up renal substance is injected into animals, substances are found in the serum of the animals so treated which exert a destructive action upon the renal cells of other animals. When injected into a second animal such a serum sets up a nephritis and causes albuminuria. It has been suggested that the tendency to chronicity in renal diseases is due to the establishment of a vicious circle, and that the nephrolysins formed as a result of the renal lesions aggravate the morbid condition in the kidneys. Ascoli, and those who think with him, believe that the phenomena of uræmia may result from the action of these bodies upon the nerve centres.

The subject of nephritis occupies five chapters, all having been written by Dr. J. B. Herrick (Chicago). We would especially draw attention to the remarks on the treatment of chronic interstitial nephritis. Dr. Herrick takes a moderate, common-sense view of the diet which is most suitable for patients suffering from this affection. After referring to the various views which have from time to time been expressed as regards drinking a large amount of liquid or the reverse, the value of an entirely milk diet and the effect of "red meats," he says: "The dietetic treatment may be summed up in a few words by saying that the diet must be a mixed diet from which all seasoned, spiced foods and alcohol are excluded; meat and other proteids are to be taken in moderation or small amounts; cereals, vegetables, and fruits freely; the sweets sparingly. Milk is allowed freely, but neither it nor water is to be taken in excess for the supposed benefit that is to come from flushing out the kidneys." This opinion is in accord with that held by many of the leading authorities. In commenting upon the operative treatment of chronic interstitial nephritis (decapsulation of, or incision into, the kidney) Dr. Herrick says that while in individual cases operation may perhaps be justified, an operation upon every case of nephritis is to be condemned; convincing statistics are not yet to hand to justify any statement that a surgical cure has been wrought of a disease of the character of chronic nephritis. Other diseases of the urinary tract which are described are: The Bacteriology of the Infections of the Urinary Tract and Urinary Findings in these Conditions; Pyogenic Infections of the Kidney, Ureter, and Perirenal Tissues; and Tuberculosis of the Kidney, by Dr. T. R. Brown (Baltimore); Tumours of the Kidney; Urinary Lithiasis, Renal and Ureteral Calculi; and Genito-urinary Diagnosis and Diseases of the Prostate, by Dr. H. H. Young (Baltimore).

The second part of the work deals with Diseases of the Ductless Glands. The writer of the four chapters on this subject is Dr. G. Dock (professor of the theory and practice of medicine, Tulane University of Louisiana). Diseases of the adrenal glands are first described. The chromaffin tissue and its relation to disorders of the gland, to which a considerable amount of attention has recently been drawn, are discussed, but Dr. Dock considers that the investigations conducted more especially by French observers are as yet too immature to warrant any definite conclusions being drawn. A good account is given of Addison's disease, and "adrenal therapy" is touched upon. The author maintains that the use of adrenal preparations in this condition is legitimate, but they should not be given to the exclusion of symptomatic treatment. They are more promising in the early stages and must be used with extreme care in advanced cases, but even in the latter are permissible. In the chapter on diseases of the thyroid gland reference is made to parathyroid lesions. The most important result of such lesions is tetany, or perhaps it would be more accurate to say post-operative tetany. MacCallum's experiments to attempt to explain the pathology of tetany are quoted, and it is suggested that the same theory can be applied to non-operative tetany. His results indicate the existence, in animals deprived of the parathyroids, of a poison which combines with certain cells in the central nervous system. A full description is given of exophthalmic goitre, the surgical treatment receiving favourable comment. Cretinism, myxœdema, and acromegaly are also described.

Part III. is devoted to Diseases of Obscure Causation. These include Hodgkin's Disease, by Dr. W. T. Longcope (Philadelphia); Arthritis Deformans, by Dr. T. McCrae; Osteomalacia, by Dr. Dock; and Astasia-abasia and Adiposis Dolorosa, by Dr. J. McCarthy (Philadelphia). The article on arthritis deformans will well repay perusal. The author considers that while an exact classification is difficult it seems best to discuss the clinical features under the various forms, always bearing in mind that there are not invariably clear-cut distinctions between them, and that it may not be easy to say exactly to which class a given patient belongs. We consider his suggestion sound. For full

details we can only refer our readers to the original, but the following is an outline of the classification adopted: 1. Peri-articular form. This is the most frequent, and comprises the cases sometimes described as "rheumatoid arthritis." The changes are most marked in the synovial membrane and peri-articular tissues. The cartilage is also affected in many cases, but the damage is rarely extreme; whatever change occurs in the bone or cartilage is apparently secondary. 2. Atrophic form. This is much the least frequent in occurrence, and is in many ways the most serious as regards outlook. The most marked anatomical change consists in the atrophy of the bone, which may be very advanced. The progress in some cases is extremely rapid, and they might almost be described as fulminating. 3. Hypertrophic form (osteo-arthritis). In this the changes are more especially in the cartilage and bone, and very varying degrees of involvement are found, both as regards the amount of change in the cartilage and the extent of bone formation. The form is usually poly-articular, and apparently may come on at any age, but the majority of patients are older at the time of onset than those belonging to the peri-articular form. 4. Some of the forms of the so-called "infectious" arthritis. This group may pass over into arthritis deformans, and it is difficult to know where to draw the line. The frequent occurrence of arthritis with or after many acute infections has to be always remembered.

In Part IV. the diseases of the muscles are considered: myositis, Thomsen's disease, and myotonia congenita, by Dr. W. R. Steiner (Hartford, Conn.), and myasthenia gravis, paramyoclonus multiplex and periodic paralysis by Dr. D. J. McCarthy. All these contributions are carefully done.

In Part V. a description is given of vaso-motor and trophic disorders. Raynaud's disease, angioneurotic œdema, Quincke's disease, diffuse scleroderma, and erythromelalgia are described by Professor Osler. A comprehensive account is given of the symptomatology of Raynaud's disease, and some excellent reproductions of photographs enable the reader to obtain a good idea of the principal changes observed in the feet and hands. The differential diagnosis is also discussed in an instructive manner. The various forms of local necrosis which have to be distinguished are considered separately, the more important being grouped under four headings—viz., organic disease of the nervous system, obliterative arteritis, post-febrile necrosis, and multiple neurotic skin gangrene. Dr. C. P. Emerson (Clifton Springs Sanatorium) describes the following conditions: achondroplasia, hypertrophic pulmonary osteo-arthropathy, Paget's disease, osteogenesis imperfecta, osteopsathyrosis, leontiasis ossea, microcephalus and facial hemiatrophy.

The last part of the work deals with the medical aspects of life assurance; it is written by Dr. C. L. Greene, professor of medicine in the University of Minnesota. As is natural, Dr. Greene bases his remarks mainly on the results obtained by the American insurance companies, and we do not think that all which he has to say will be endorsed on this side of the Atlantic. We cannot agree, for example, with his remark that life insurance companies are constantly accepting men in the active stages of tuberculosis. Careful inquiry into the history of the applicant, combined with physical examination, should reduce such a risk to a minimum, but prolonged and scientific investigation by a medical man should command a proper fee, a fact which some life assurance companies will not recognise.

Professor Osler and Dr. McCrae may again be congratulated on having issued a most interesting volume, which fully maintains the high standard of its predecessors. The subjects considered in it are of widespread interest, and the various contributions are of great practical value.

Pratique de la Chirurgie Antiseptique; Leçons Professées à l'Hôtel-Dieu. (*The Practice of Antiseptic Surgery.*) Par le Docteur JUST LUCAS-CHAMPIONNIÈRE, Chirurgien Honoraire de l'Hôtel Dieu, Membre de l'Académie de Médecine, Membre du Conseil d'Hygiène et de Salubrité du Département de la Seine. Avec un portrait de Lord Lister. Paris: G. Steinheil. 1909. Pp. 463. Price 8 fr.

Dr. Lucas-Championnière was the first in France to employ the methods of Lister, and it was in 1874 that the opportunity came. For a few weeks in that year he undertook the work of Panas at the Lariboisière Hospital, and the wards in which his cases were placed were some of the most crowded and most infected wards of the hospital, for, he tells us, there were many patients dying from erysipelas and other septic conditions, and during the whole year no case of amputation had recovered. He determined to employ the antiseptic method and to follow Lister's teaching in all particulars, though he had to provide the dressings at his own expense. He took over the wards on Nov. 19th, 1874, and the next day he operated on a strangulated hernia and performed an amputation at the shoulder, while on the following day he trephined a patient who was comatose and had epileptiform seizures. All these cases recovered, and from that time to the present he has employed and taught antiseptic surgery. The book before us is an exposition of the methods he has used, and it is of great interest and importance in these days when what is called aseptic surgery is very extensively practised and when it is not rare to find that a little good-natured contempt is cast on antiseptic methods. As we have many times pointed out, the differences between the antiseptic and aseptic methods are much less important than many appear to think; but whatever differences there may be the methods employed by Lord Lister, and described in this work by Dr. Lucas-Championnière, are well able to hold their own. During the Franco-German war Dr. Lucas-Championnière acted as surgeon to an ambulance and he wished to take with him some carbolic acid which he had obtained, but his senior objected and it was not used. This little medical footnote to history shows that the introduction of the antiseptic method was as slow in France as in many parts of England. We have derived much pleasure from reading this volume, and we recommend it to all those who wish to have a full account of the best practice of antiseptic surgery.

Électrothérapie. By Professor T. NOGIER, Lyons. With 251 illustrations in the text. Paris: J. B. Baillière et Fils. 1909. Pp. 528. Price 10 francs.

THIS is the first volume of a series of books on physiotherapy which are to appear under the editorship of M. Gilbert and M. Carnot. In reading the work we have been reminded of a similar book by Dr. Guilliminot which we reviewed some time ago in these pages. We do not suggest plagiarism in any way; we merely note the coincidences in style and method of experimenting and reasoning. Professor Nogier's work is divided into four parts. The first of these relates to apparatus and its management, and the second to electro-physiology, in the course of which a number of interesting points are discussed and then demonstrated by means of experiments. In the second section the action of the ordinary galvanic and faradic currents on nerve and muscle is given, as well as that of high-frequency currents on nutrition, while the author enters into the questions of cataphoresis and the induction of so-called electric sleep. The third section on electro-diagnosis is very well written and forms a valuable *résumé* of the present state of our knowledge on this subject. The last section of the book, that on electro-therapeutics, is the largest and most important, taking up about one-half of the whole volume. The author includes only those diseases

which are, as a rule, either cured or greatly benefited by electrical treatment. In the treatment of hemiplegia he advises that galvanisation of the brain and faradisation of the affected muscles should be commenced one month after the occurrence of the primary lesion in order to stimulate the repair of the cerebral injury and to obviate atrophy of the affected muscles. As has been shown by Leduc and practised by others in this country, galvanisation of the brain is safe so long as we avoid any sudden variation in the magnitude of the current. In infantile paralysis the author advises employment of slow rhythmic currents. His chapter on the various forms of neuritis is very complete, and here he lays stress on the importance of a careful electro-diagnosis as a preliminary to electrical treatment. A novel method of treating some forms of facial neuralgia is described in which the active electrode consists of a glass cannula containing a silver wire which is connected to the positive pole. The cannula is supplied with warm water from a douche tank. This is applied inside the nostril or mouth, the current reaching the mucous membrane through the water. In this way high current densities can be employed without risk of producing an electrolytic burn and the method has given very good results.

The section on diseases of the skin is fairly comprehensive, but the author appears to attach but little importance to treatment by X rays, radium, or ultra-violet light. He treats lupus erythematosus by a sort of modified fulguration which in spite of its painfulness he prefers to the X rays or Finsen light.

We think that Professor Nogier has written an extremely good book, one which forms a worthy addition to any medical library that has pretensions to being up to date and inclusive.

The Blood in Health and Disease. By R. J. M. BUCHANAN, M.D. Vict. and Liverp., F.R.C.P. Lond., Professor of Forensic Medicine in the University of Liverpool, Honorary Physician to Out-Patients, Liverpool Royal Infirmary. London: Henry Frowde, Oxford University Press; Hodder and Stoughton. 1909. Pp. 318. Price 12*s.* 6*d.* net.

THE study of hæmatology and its application to clinical medicine and surgery have made great advances and proved to be of considerable utility during recent years. The full value of the examination of the blood and the conclusions to be drawn from the results have not yet been completely determined, but enough has been demonstrated to prove that in certain conditions a differential "count" of the erythrocytes and leucocytes yields information of great worth both as regards diagnosis and prognosis. The technique necessary to carry out the various processes is in some instances an involved one, and the morbid conditions that may be indicated are numerous. Consequently a trustworthy work devoted to a consideration of the blood in health and disease, containing the most recent researches on the subject, is to be welcomed, and such a book is now before us.

After a brief review of the characters of normal blood the methods of estimating the amount of hæmoglobin are discussed and the various forms of hæmoglobinometers are described. A chapter is next devoted to the less important procedures which are sometimes employed in connexion with the examination of the blood, such as the use of the spectroscope, the coagulation time, the estimation of the calcium salts and of the alkalinity of the blood and its specific gravity. The manner in which the opsonic index is estimated also receives attention. The methods and instruments which are employed in enumerating the erythrocytes and leucocytes are well described, and numerous hints are given which will be found of value by practitioners and students. Reference is also made to the enumeration of blood platelets, directions are likewise given for the preparation of specimens for microscopical examination, while the composition of the principal stains employed is duly set forth.

The chapter dealing with the morphology of the erythrocytes, and with their physiological and pathological variations in number and appearance, will be found full of interest, the various facts being commented on in a manner that at once attracts the attention of the reader. Particular importance must be attached to the chapters devoted to a consideration of the leucocytes. Of all the problems associated with the study of hæmatology, the changes in and varying proportions of the different forms of the white cells are the most difficult to follow and to understand. Dr. Buchanan treats the subject in a thorough and painstaking manner. The student is likely to be bewildered at first with the varieties of leucocytes which may be met with in the blood, more particularly as more than one name has been given by different observers to each of the forms. The classification here given, however, will be found simple and easy of comprehension. The significance to be attached to the presence of lymphocytes, eosinophiles, myelocytes, and so on, is clearly laid down, and the blood changes which occur in association with special diseases are carefully described.

The value of the work is considerably increased by a number of excellent coloured plates. These have been drawn with a view to providing a faithful atlas of the principal morphological changes which are to be found in abnormal blood states. They are beautifully produced and a full description accompanies each one. We were very favourably impressed with this book and can recommend it to those of our readers who are interested in the subject and who wish to supplement their knowledge both in the practice and theory of the study of the blood.

LIBRARY TABLE.

Masques and Phases. By ROBERT ROSS. London: A. L. Humphreys. 1909. Pp. 315. Price 5*s.*—The ingenious Mr. Robert Burton in his wonderful Anatomy of Melancholy quotes a saying of Marsilius Ficinus, who was both priest and physician, of which we have been reminded in reading Mr. Ross's book. The saying occurs in a letter to a group of his friends and is as follows: "Iterum precor et obtestor, vivite laeti; illud quod cor urit, neglegite. Haec autem non tam ut sacerdos, amici, mando vobis, quam ut medicus; nam absque hac unâ tanquam medicinarum vitâ, medicinae omnes ad vitam producendam adhibitae moriuntur: vivite laeti." Michael Finsbury gave similar counsel, and Mr. Ross's book teems with what that admirable solicitor called "judicious levity." The essays are full of the best kind of fooling mixed with sound common sense and an intimate knowledge of literature and art. First we have an excellent short story about an archæologist, a blackmailer, and a forged manuscript, and other chapters are reminiscent of that unworthy follower of Psalmanazar—namely, Shapira. "The Eleventh Muse," "A Mislaid Poet," and "The Elethian Muse" deal with banalities in verse and prose, and the extract from Baedeker's Southern France, 1891 edition, which is given in the last-named, is pure joy. We are sincerely grateful also to Mr. Ross for recalling to our mind the immortal passage about the Roman Catholic church from that instructive work of the "fifties," "Near Home." More serious essays are a sympathetic biography of that unfortunate genius Simeon Solomon, and a retrospective view of Aubrey Beardsley. "Swinblake" can amuse but few people, it is too allusive, but those who take the allusions will be rewarded. The last section of the book is taken up by a brilliant lecture entitled "There is No Decay," delivered at Liverpool in 1908. We

commented upon this optimistic address soon after its delivery, and on re-reading it we again find its message true and inspiriting. We thank Mr. Ross for his little book, but we hope that in future writings he will allow himself to be somewhat simpler in his treatment. He demands from his readers always an intimate knowledge of things about which he should be informing them.

Elementary Physiology for Teachers and Others. By W. B. DRUMMOND, M.B., C.M. Edin., F.R.C.P. Edin. With 80 illustrations. London: Edward Arnold. 1909. Pp. 198. Price 2*s.* 6*d.*—Dr. Drummond has essayed a difficult task. As hygiene now holds an important place in the curriculum of students in training as teachers, and as a sound hygiene must be based on physiology, this little book was written to meet the needs of those in, or about to enter, the teaching profession and not as a manual either of hygiene or physiology. Special attention is paid to the peculiarities of childhood, and a rather full account of the physiology of bodily exercise and of the anatomy of the bones, joints, and muscles is given. The writer has recognised that what is wanted is not a knowledge of the minute structure of a muscle, or even its origin or insertion, but rather how a muscle or a series of muscles may act and work in unison to produce a particular movement, and how the muscles are coördinated to this end by the central nervous system. The nervous system and sense organs receive special attention, though of course the work is quite of an elementary character. All the statements cannot pass unquestioned; for instance, under the head of the Chemical Composition of the Body we find the statement that "sodium chloride, or common salt, is the most abundant mineral salt." The microscopical illustrations are rather apt to mislead, no magnification being stated. The smooth muscle cell figured on p. 73 is longer, broader, and far more imposing than its cross-striated neighbour. It would not be difficult to find other points in the book to criticise, but we recognise that the need to say just enough, and only just enough, made this a very difficult book to write. We think that it will prove useful both to the teacher and to the student preparing himself to become a teacher. It seems to meet the elementary requirements of both in a readable form.

New Inventions.

APPLIANCES FOR CLINICAL PATHOLOGY.

THE three pieces of apparatus which are described below have been devised during the work on human trypanosomiasis, carried out by the expeditions and in the laboratories of the Liverpool School of Tropical Medicine. They have all been used and have been found to fulfil the purposes for which they are intended. The syringe and lumbar puncture needle were supplied by Alexander and Fowler, the staining dish by Baird and Tatlock.

FIG. 1. *Syringe for gland puncture.*—This syringe was designed to fill the requirements[1] of a syringe intended for use in the diagnosis of human trypanosomiasis by gland puncture. The finger rings were fitted in order that this manœuvre might be done by the operator without assistance. The space, indicated by the illustration, in the head of the needle below the nipple of the syringe has been provided in order that the drop of gland juice obtained by puncture shall be detained there and not drawn up into the syringe.

FIG. 2. *A needle for lumbar puncture.*—The needle ordinarily used for making lumbar punctures has at least two disadvantages. Its point has cutting edges, since it is formed by grinding down a fine tube until a point is made, and it has but one, a terminal, opening. Because of its cutting edges it is difficult to do a lumbar puncture with an ordinary needle without wounding a blood-vessel; consequently the cerebro-spinal fluid obtained by its use is liable to be mixed with blood. When a lumbar puncture is done with an ordinary needle, the needle sometimes becomes blocked by a plug of skin or of tissue, punched out by its terminal opening. Even if the point of an ordinary needle is within the spinal canal the cerebro-spinal fluid may not flow freely, or may fail to flow, because the opening of the needle has been closed by a membrane lying over it. The needle illustrated has been designed in order that these disadvantages may be avoided. Its point is short and conical; consequently it has no cutting edges. Instead of one

FIG. 1. FIG. 2.

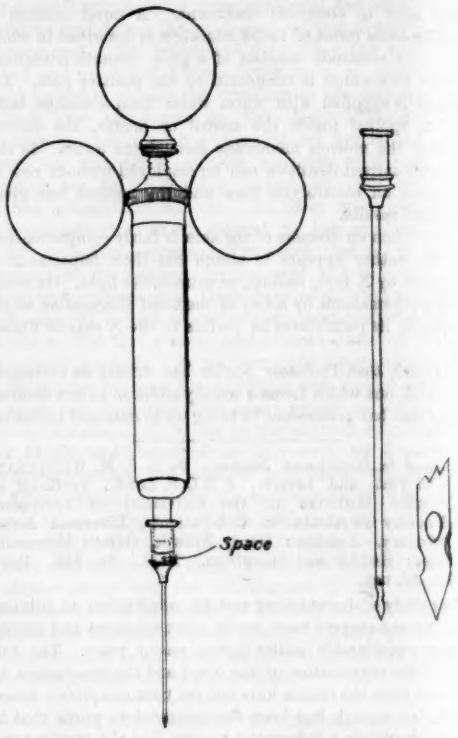
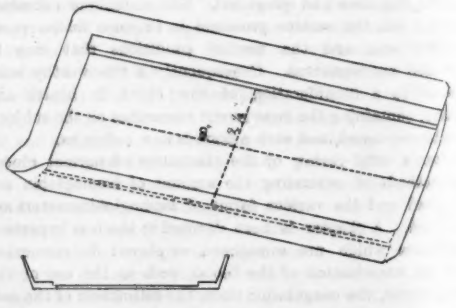


FIG. 3.



terminal aperture this needle has three lateral ones. In order that all three of these openings may be in the spinal canal at the same time the distance from the upper border of the uppermost of them to the point of the needle is only a quarter of an inch and the openings face in different directions in order that all three may not be blocked by the same cause.

FIG. 3. *Staining dish.*—In order that a precipitate may not be formed upon films which are to be stained by a

[1] Memoir XVIII. of the Liverpool School of Tropical Medicine, p. 2.

watery modification of Romanowski's staining method[1] they must be placed face downwards in the staining fluid. This is usually accomplished by resting the slides to be stained upon matches, or on other slides, and pouring the stain beneath them; the staining dish illustrated was devised to obviate this. It is made of glazed ware, and is capable of taking seven ordinary slides at a time. Along the whole length of the dish on either side run slightly raised margins, upon which the ends of the slides are supported. A shallow space is thus left between their under surface and the bottom of the dish, so that only a small quantity of stain is used.

JOHN L. TODD, M.D.,
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Looking Back.

FROM

THE LANCET, *SATURDAY*, Oct. 22nd, 1831.

CYANOPATHIA CUTANEA.

EXTRAORDINARY CASE OF THE MORBID TRANSPIRATION OF BLUE COLOURING MATTER THROUGH THE SKIN.

By Dr. C. BILLARD, *of Angers.*

(The Editor, after an introductory paragraph omitted now for want of space, concludes "Even though it may not be permitted to us to penetrate the intimate nature of everything presented by the study of natural philosophy, we should at least keep accurate records of all the curious and novel phenomena which may one day serve for the perfection of science. Under these impressions I proceed to publish briefly the subjoined case:—)

Victoria Russard, a full-grown girl, ætat 16, native of Corzi, department of the Maine and Loire, was presented to me [Dr. Billard] for my opinion on the 23rd April, 1831, by M. Hervé, of Villeveque. Her face, neck, and upper part of the chest, was of a beautiful blue colour, especially remarkable on the forehead, the alæ nasi, and about the mouth. When her person was wiped with a white handkerchief, it was stained by the blue matter, and the skin was left clean and white; the lips were of vermilion tint, the pulse regular and natural, the strength and appetite indicative of perfect health. The only morbid symptoms she exhibited was a dry cough, but there was no *rale*, no dulness on percussion, no aberration from the natural phenomenon of the heart, at least as far as auscultation and percussion could demonstrate. Two years had elapsed since her first menstruation, which since continued to observe the regular periods. She followed the employment of a laundress, and from the commencement of this pursuit she began to perceive her eyelids dark and blue, and that this colour disappeared when she went into the open air. Any unusual increase of temperature remarkably augmented the blue secretion.

The coloration, however, made no progress till the end of last May, when the entire forehead and face became remarkably blue; the dry cough increased, and some sanguinolent expectoration, and at length hæmatemesis supervened. The menstrual function still was regularly performed. The patient was bled, and a blister applied to the arm without relief.

When I first saw this young woman, I imagined that the blueness was independent of any organic disease of the heart; and as the blue matter was secreted on the surface of the skin, which on its removal remained free from any stain, I deemed the secretion to depend entirely on an altered cutaneous transpiration. This diagnosis once established, I still found myself much embarrassed in the indications of treatment, and I at length ventured to advise the medicines, which, by their direct action on the skin, might induce some favourable modification in the disordered functions of that organ. With this view I prescribed six grains of flour of sulphur daily, and half an ounce of sarsaparilla root in decoction in a pint of water.

Far from any success being thus occasioned in twelve days, abundant sweating ensued. The blue colour greatly increased. The forehead, the face, the neck, the chest, and the belly, became of a deep azure hue, which extended itself in clouds, grew pale or deep, according to the degree of acceleration or retardation in the cutaneous circulation; for example, when she was questioned on any delicate matter, instead of blushing she became quite blue. In fact the shades of the chameleon were not more sudden in their appearance. It is remarkable that the *anterior* surface alone of the face, trunk, the shoulders, arms, and thighs, were susceptible of the tingeing, while the posterior surfaces remained free. The patient's linen was stained blue. The sclerotic coat, the nails, scalp, and concha of the ear, preserved their ordinary colour; the mucous membrane of the cheeks was rather pale, the tongue usually furred. There was no perceptible febrile movement.

Fifteen days after the first consultation, I again saw the patient. The blue colour was again increased; the cough stronger; no feverishness, but the urine had been so suppressed for six days, that for three days she had scarcely passed a single drop. Notwithstanding this suppression, she endured none of the accidents it ordinarily occasions, such as swelling of the abdomen, hypogastric pain, œdema of the ancles, &c. Every night there was profuse diaphoresis; some bloody sputa had recently been expectorated, for which she was bled in the arm. The blood exhibited no appreciable alteration from the healthy state.

I separated a considerable quantity of the blue matter from the skin by means of oil, it having resisted the action of water and vinegar. M. Cadot, an able and distinguished pharmaceutist, subjected it to the following chemical examination.

(We have not the space to transcribe the results of analysis of the blue matter, but no satisfactory conclusions were arrived at, except that Dr. Billard was led to administer bicarbonate of soda dissolved in an infusion of orange flowers, and in doses of from 6 to 18 grains daily, the use of which resulted in a diminution of the morbid secretion, and in 12 days the trunk was completely blanched, but there remained a slightly blue tint around the eyes, the alæ nasi, and the forehead. As olive oil had been found to remove the blue colour the patient was advised to wash her face with it every morning. Dr. Billard states: "This species of cyanosis is, I believe, unexampled in the records of medicine, this colouring matter here being widely different from the blueness of aneurismatic patients, or the greenness which sometimes is seen on stained linen.")

[1] Stephens and Christophers: The Practical Study of Malaria and other Blood Parasites, p. 21.

SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN.—A quarterly court of the directors of this society was held on Oct. 13th, Dr. G. F. Blandford, the President, being in the chair. 19 members of the court were present. Since the last court one of the vice-presidents of the society, Sir Thomas Smith, Bart., had died, and a vote of condolence was passed from the chair. Sir Thomas Smith was elected a member in 1870, and had held the offices of director and vice-president. He had always taken the keenest interest in the welfare of the society, and was a regular attendant at the quarterly courts. One of the annuitants of the charity, a widow, had also died since the last court; she came on the funds in 1907, and received in grants £145. The sum of £518 was voted to be distributed among the annuitants as a gift at Christmas, each widow to receive £10, each orphan £3, and the orphans in receipt of grants from the Copeland Fund £5 each. Membership is open to any registered practitioner who at the time of his election is resident within a 20-mile radius of Charing Cross. The subscription is 2 guineas per annum, or a member may become a life member by paying one sum the amount of which is fixed by the by-laws of the society. Relief is only granted to the widows or orphans of deceased members, and since the last court six letters had been received from widows of medical men asking for relief, but this had to be refused as their husbands had not been members of the society. Application forms for membership and full particulars may be obtained from the secretary at 11, Chandos-street, Cavendish-square, London, W. The next election will be on Jan. 12th, 1910. The invested funds of the society now amount to £100,500.

THE LANCET.

LONDON: SATURDAY, OCTOBER 23, 1909.

Pathogenic Organisms and Sporadic Cases.

WHERE two cases of an infectious disease occur in patients in close proximity to one another the mode of transference of the morbid cause presents no need of any special explanation. The air may have been the medium of infection, and experiments have shown that this takes place. The mode of transference may have been mediate, clothes and other substances acting as the channel of convection, or immediate contact may serve to account for the transference of the disease. But the problem is far more abstruse when no other case of the disease has occurred in the immediate neighbourhood of the patient; and some supporters of the germ theory were in the early days of modern pathology compelled in defence of their opinions to invoke explanations which to our fuller knowledge appear improbable or even absurd. The power possessed by the air of conveying the microbes of disease is certainly of effect to some extent, but it is only in the neighbourhood of the patient that this mode of infection can act, and all recent investigations have merely served to increase the certainty with which this opinion is held, so that we hesitate to accept as conclusive any evidence which appears to point to pathogenic organisms being carried far by aerial agency.

Every year, however, serves to impress upon us more and more the importance of the ingesta as the channel of the infection of a very large number of microbic diseases, and the probability that even here the mode of entrance of the pathogenic organism may be unexpected. The rôle of water as a medium of infection seems now to be fully appreciated, and many of the epidemics of typhoid fever and cholera are easily explicable by the hypothesis that the water imbibed contained the microbe of the disease. With other substances taken by the mouth the proof is often far from easy. In some cases the article of food has merely served to convey to the patient a small quantity of infected water. Thus the cases in which typhoid fever has been incurred from eating oysters might be regarded as due to the small quantity of water enclosed in the shell of the oyster, though the organism has been found within its body. And those other instances in which milk has been the medium of infection with typhoid fever may sometimes at least be ascribed to the washing out of the cans by infected water, some of the infected water being allowed to remain within the can. But occasionally the train of events is not so easy of explanation. For example, a question has arisen which has up to the present not received any satisfactory answer. If a cow drinks water or drinks from a pond containing bacillus typhosus, is it possible that the milk taken from that cow should contain the organism in a condition capable of causing the disease in those who drink the milk? The evidence on the subject is very scanty, but it would be unwise to deny the possibility of the occurrence of this mode of infection. In THE LANCET of Oct. 2nd of this year we gave a *résumé* of a case published in the *Boston Medical and Surgical Journal* of July 28th, in which typhoid bacilli were proved to be present in the milk of a suckling woman who was suffering from typhoid fever. As we remarked then, there is nothing very surprising in this fact. For many years it has been known that a large number of typhoid bacilli are excreted by the kidneys, in fact, it is customary to look upon the urine as one of the chief and most important media of infection, for there is always more likelihood of absence of care in disinfection of the urine than of the stools. This being the case it might be expected that the milk of a typhoid patient would be found to contain the bacillus. It is, of course, a different matter to assume that because the milk of a patient suffering from typhoid fever may contain typhoid bacilli an animal like the cow, in which the typhoid bacillus is non-pathogenic, could excrete with its milk typhoid bacilli which it has taken in by its alimentary canal; but that the sequence of events is imaginary it would be hazardous to say. In this and similar ways some of the sporadic cases which have proved so puzzling to epidemiologists may be accounted for, but the proof of the existence of typhoid "carriers" makes it hardly necessary for us to fall back upon such explanations. If a patient who has once had typhoid fever is capable after recovery from the disease of excreting daily large numbers of typhoid bacilli for many years afterwards, the occurrence of sporadic cases of the disease in neighbourhoods where no known case of the disease has existed is easily understood, and the evidence which was considered almost conclusive at one time of the origin *de novo* of this disease is now seen to be untrustworthy, because it is practically impossible to prove that some carrier of the disease had not passed through that neighbourhood within some weeks of the occurrence of the sporadic case. In the same way, it is hardly to be doubted that most of the apparently inexplicable cases of isolated occurrence of infectious diseases would receive a satisfactory solution could we obtain fuller particulars of the life-history of those in the neighbourhood of the patient. An official report has just been issued by the Lieutenant-Governor of Bengal on an outbreak of cholera which occurred in the Presidency General Hospital, Calcutta, and from investigations carried out by Professor HAFFKINE it would appear that the epidemic has been traced by him to a custard pudding infected by the hands of some native servants who were employed for cleansing dishes and plates in the nurses' kitchen. Examination of two of these natives showed their hands to be infective with comma bacilli, and one of them on closer examination was found to be excreting comma bacilli in his stools while apparently in normal health. This is not the first instance in which a cholera epidemic has been traced or attributed to cholera "carriers." Last year an outbreak

occurred at Manila in the Bilibid prison, and the medical authorities, suspecting that prisoners (who were infected without being actually ill) were disseminating the disease, caused the stools of 217 convicts to be examined. It was found that 17 of these were "carriers." A similar examination of 376 residents of Meisic, one of the worst cholera-infected parts of Manila, also showed that cholera vibrios were present in the stools of 27 of those examined. The alleged discovery of such "carriers" is of great importance, and if confirmed it will possibly throw light on many of the obscure epidemics and sporadic cases of cholera that occur from time to time.

But because the existence of "carriers" may account for so much we must not try to make it a universal solution of difficulties. The more widely our knowledge of the bacteriology of food extends, the more is it borne in upon us that many articles of diet are liable to become the channels of infection. Recently it has been shown that the eggs laid by a tuberculous hen may contain living tubercle bacilli, and if this be true of tuberculosis it is far from improbable that many other pathogenic organisms may be able to gain an entrance into the body through the same vehicle. It may be urged that as eggs are almost always cooked before being eaten the risk of infection from this source is but small, but the cooking which an egg usually receives is quite insufficient to destroy the vitality of included micro-organisms. When an egg is lightly boiled the proteids of the yelk are not coagulated. Therefore, it is practically certain that any organisms contained therein could not be destroyed by the temperature to which the egg is subjected. Too much stress is often laid on cooking as a sterilising process. It is true that there is no other method to be compared with heat for efficacy in destroying the micro-organisms of disease, but it is rare indeed that cooking is effected at such a temperature as to sterilise the food. The interior of a loaf, even while it is in the baker's oven, never reaches a temperature sufficient to destroy living microbes, though the outside may be baked brown. This has been conclusively shown by enclosing within the interior of a loaf sealed glass tubes containing living germs. And what is true of bread is true also of meat, which is not subjected in the most thoroughly roasted joints to a temperature sufficient to be efficacious against diseases. Even when a joint is boiled and the water in which it is placed is kept at a temperature close to the boiling point, the interior has a much lower temperature. The mere fact that the interior of a joint is usually red is a conclusive proof that it has not reached the temperature of boiling water. Some processes of cooking are more efficacious than others, but the chances of the introduction of pathogenic germs in food are very great indeed, so great that the occurrence of sporadic cases of epidemic disease needs no further explanation.

One fact alone stands between us and widespread attacks of these infective diseases, and that is the naturally defensive powers of the body. Day by day all of us must take in by the air we breathe numberless pathogenic organisms; day by day we imbibe with the water we drink and with the food we take innumerable germs which, should the conditions be favourable, can give rise to disease. But fortunately for us the conditions are generally not favourable. The natural resisting powers of the body are sufficient to counteract all these assaults of our invisible enemies, and we survive, not because we are not attacked, but because our tissues are able to withstand the attacks made upon us. In what manner this defensive power of the body may be lowered we know at present little, but advances in prophylaxis will be made by the prevention of these reductions in our defensive powers. This is the promise of the latest developments of pathology.

National Temperaments and the Ferrer Riots.

THE tragedy of Montjuich has provided the world with an object-lesson in the contrasted behaviour of the Latin and non-Latin races after the fall of the curtain on the last tragic scene. While in the English-speaking communities as well as in the German, Scandinavian, and Slav the incident has called forth profound pity for the protagonist and modified censure (pending fuller information) on the methods by which he was brought to judgment, in their Latin sisters it has evoked the most passionate, even hysterical demonstrations, proceeding to violence, against every person or thing associated, however remotely, with his supposed executioners, and exploding in collisions with the police and the military, causing civic uproar and death itself. The improvised indignation meetings, followed by processions of infuriated mobs bent on damage and destruction to the Spanish Embassies and Consulates in the chief French and Italian cities, have disturbed the peace of Europe with a repetition of deeds of violence wanting but little to reproduce some of the worst episodes of the Reign of Terror. Barricades have been run up and frantically defended, all business has been interrupted, and when, after much drastic, even sanguinary, effort, tranquillity has been restored, a general strike has been proclaimed which has, in Italy, paralysed for the time all industrial or commercial operations, and intimidated alike the citizen within and the stranger without the gates.

Whence this contrast between the demeanour of London and Berlin on the one hand, and that of Paris and Rome on the other? The better minds of the two latter cities, as conveyed in its more serious press, find the answer in racial idiosyncrasy—the Teutonic circumspection and self-control sufficing to maintain calm in presence of a provocative to which the Latin super-sensitiveness and *élan* blindly abandons itself. The comments of such journals as the *Temps* or the *Corriere della Sera* give emphatic expression to this finding, while other organs, French and Italian, repeat it with the invoked authority of HIPPOLYTE TAINE and KARL HILLEBRAND, both of whom in their comparative studies of their respective nationalities insist on the differentiating qualities to which TENNYSON makes poetic allusion in the lines—

> "Bright and fierce and fickle is the South,
> But dark and true and tender is the North."

TAINE, indeed, in his penetrating analysis of the Latin mind, goes so far as to say that France, and *a fortiori* Italy, owe much of their hyperæsthesia to not having been adequately

"Teutonised"—in other words, to not having had that proportion of the "northern infusion" which would have corrected, while not wholly crushing, inherited character, and culminating in a racial blend which, in Great Britain, for example, is manifested in the happy equipoise of Celt and Saxon, Norman and Dane. Time, *plus* education, may be expected to achieve a similar result in the Latin civilisation, aided as these will be by the intercourse now in rapid progress between race and race—intercourse facilitated, *inter alia*, by international congresses in every interest, scientific, literary, artistic, and professional.

Meanwhile it is impossible not to be impressed with the bitter irony with which the most widely diffused of Italian journals—the *Corriere della Sera* of Milan—contrasts the demeanour of its compatriots with that of the Englishman and the German in view of the so-called "martyrdom" of FERRER. In Germany and in England, it points out, the incident has produced no riots, no window smashing, no barricades, no dragonnades, no bloodshed, and yet in these countries there has been no lack of sympathy with FERRER or sober questioning of the procedure by which he was made to atone for his propaganda. In Germany, it continues, there is a powerful Socialist party, while England is so much the "land of liberty" as to have become the "second country" of the anarchist refugee; and yet how different their public behaviour after the events of Montjuich. But in Italy, says the cruel Italian newspaper, "we are so much more ardent, so much more impulsive, so much more susceptible! When our delicate appreciation of liberty and of justice is outraged we explode, we 'strike,' not work only, but everything and person that offends us. We are built so!" Mordant words these, coming from an able and cultured organ of public opinion; but not, we fear, given forth for the last time! "Fanciulli siamo" (children we are), said MASSIMO D'AZEGLIO, after the declaration of his country's unity and independence. "We have made Italy. We have now to make Italians." Uttered well-nigh 50 years ago, these words are scarcely less relevant in the day now passing; nay, they will continue to have their relevance till Italy realises the superiority of deeds to words in the development of a true sense of citizenship shown in a purer, higher standard of official responsibility, till she abandons short cuts to the millennium in favour of that more excellent way of steady, intelligent, undeviating work on the lines of duty, of self-abnegation, and of enlightened brotherhood.

Some Considerations of Medical Education.

THERE can be no doubt whatever that medical education supplies to thoughtful members of our profession more problems for close contemplation than almost any topic of the present day, and when we consider all that is meant by following the calling of medicine at the beginning of the twentieth century it is not surprising that there should be difficulty in training the recruits for that calling, or that there should be differences of opinion concerning numerous matters of equipment. To begin with, more than in any other unit of society the medical man has within his calling a choice of varying careers, the careers in some instances being so totally different that it seems well-nigh impossible that any general course of training should be equally adapted for all of them. Of course, all medical men have common scientific and humane objects—namely, to eliminate disease either by prevention or by treatment; and all medical men are alike in desiring that their services should be reasonably rewarded by the public. Incidentally, we may state here that if expectations with regard to the elimination of disease are sometimes not realised, expectations with regard to earning an adequate wage are with equal frequency doomed to disappointment; but these unfortunate facts do not alter the common aims and hopes of the medical man, in the carrying out of which the methods of life adopted are extremely diverse.

First there is the practitioner, who is divided into the general practitioner, the consultant physician, and the consultant surgeon. Their lives have much in common and the education which they require is, up to a certain point, identical in all three classes. But the life of the general practitioner is a much less sheltered one and demands a knowledge of men and manners and a familiarity with business of which the consultant practitioner, great psychologist, versatile operator, and astute humanitarian though he well may be, need have no conception. Next we have the official medical man, the medical man whose whole time is occupied by sanitary, educational, or official appointments. The lives of these men are approximated closely with the lives of the upper-class bureaucracy, with the exception that in most of the public departments of the State the officials are better paid and are only expected to work between certain hours, while medical officers of health are always on duty. True, when times of stress occur in any of our public departments—the Education Office and the Admiralty are two that occur to the mind at once—no regard whatever is paid to official time, but everybody has to work as long and as hard as human endurance will allow; but this occurs on special occasions, and to a certain extent there is proper warning of its occurrence given to the chiefs. Our sanitary authorities are not so fortunate, and their medical officers, though affiliated on the one hand with the bureaucracy, share, on the other, with their brethren, the general practitioners, the greatest hardship of the medical profession—viz., that no medical man knows from day to day or from hour to hour when he may be called upon for special exertions. Yet another class of the medical profession lead the lives of pure *savants*—for them the laboratory is the world. They join hands with members of the medical profession at every therapeutic discussion, reinforcing the clinical tactics of the general practitioner with the etiology and the therapeutics which have been worked out with the microscope, at the chemical bench, or in various departments of physiology, psychology, biometry, and so forth. Lastly, the three Services—namely, the Naval Medical Service, the Army Medical Service, and the Indian Medical Service—and a fourth, the Colonial Medical Service, must be mentioned. They provide careers again differing in detail among themselves and differing in many respects widely from any followed by other branches of the medical calling. This rough analysis of the classes into which the medical profession in this country falls

shows at once that it would be extraordinary if differences of opinion did not arise with regard to any educational curriculum more or less designed to be suitable to the needs of all medical students.

At the beginning there is the difficulty of deciding the point up to which education must be common to all classes and where some account should be taken of the intention of the student to devote himself to one or other particular class. Everybody allows that in a liberal profession like medicine it is necessary that all the members should have a general education up to a certain standard, but as to what that standard should be there is no agreement. We have heard extremists say that every medical man should go to a university and take his degree in arts before commencing his medical career. There are, of course, men whose cast of mind is such that the proceeding exactly suits them, but there are others for whom such a measure of general education would never have any meaning at all, it would not help them in the least to develop in a useful manner, and further, it would be quite likely to nip in the bud powers of initiative and originality of impulse that would otherwise come to the front. The ideal general education, sufficiently high in standard to give its possessor the power of grasping professional subjects, and yet not so high that unnecessary time and labour have to be spent in the acquisition of the completely useless, will always be a subject of debate. All that need be said on the matter in these introductory remarks is that the examination which suits the bent of the largest number of students is probably the right one, while no standard can suit everyone. Then we come to medical education proper; and here again we find the same differences of opinion as to necessary standard. Medical education is divided into preliminary or ancillary subjects and purely professional subjects, but not divided with any sharp line. All instruction in the practice of medicine is of course a purely professional matter, while instruction in the sciences upon which medicine is directly founded—viz., anatomy, physiology, psychology, chemistry, and physics generally—is more or less preliminary. Anatomy and physiology may be termed more directly professional subjects than the others, but chemistry, for example, having regard to modern developments of bio-chemistry, can hardly be regarded as a merely ancillary subject.

With these things in our mind we are prepared to find that the subject of medical education bristles with numerous and difficult points for debate. In addition to the necessity that the general education of the medical student should be conducted to a point which is not agreed upon, and in addition to the fact that the subjects which are really germane to medical education are not settled beyond dispute, we may have to consider what amount of specialisation is necessary in a curriculum which must be designed to fit young men for the very varying careers which, as has been indicated, will lie before them. Here, again, the extremist, having first said that everybody should have a university degree in arts before he begins to do his professional work, may be found saying that everybody should have a university degree in medicine before he attempts to specialise, and that such subjects as public health and hygiene, the use of medical statistics, and the technique of pathological developments should all be acquired as post-graduate subjects, the curriculum being merely designed to bring everyone up to a standard from which he can safely diverge along a special path. These are some of the questions the discussion of which is begun to-day in a short series of articles in our columns.

Annotations.

"Ne quid nimis."

EXPERIMENTAL PSYCHOLOGY AND HYPNOTISM.

THE Harveian Oration for this year was delivered before the Royal College of Physicians of London on Monday last, Oct. 18th, by Dr. G. H. Savage, consulting physician and lecturer on mental diseases at Guy's Hospital. The lecturer, after a sympathetic sketch of the life of Harvey and the times of unrest, social, moral, and political, in which he lived, went on to consider briefly the treatment of the insane during Harvey's day. He quoted from Shakespeare and Robert Burton, the author of "The Anatomy of Melancholy," and adduced other examples from Hack Tuke's well-known "History of the Insane in England" to show how the treatment of insanity in this country has steadily progressed from gross superstition and from a cruel punishment of the deranged to the present position of enlightened care, with its promise of further development along the lines indicated by the work of Dr. F. W. Mott and Dr. Henry Head. Having in this way reached what he called the nucleus of his address, Dr. Savage spoke in weighty terms concerning experimental psychology and hypnotism. The object of experimental psychology he said to be "to describe the complex in the terms of the simple."

From one aspect, a certain mixture of hydrogen and oxygen is identical with an equal mass of water. Although the hydrogen and oxygen remain undestroyed during the transformation into water, we cannot overlook the fact that important alterations have taken place in their relationship to one another; they are fused, and are no longer a mere mixture. So, too, in psychological examples several tonal sensations fuse to create a new expression of temper. But both chemistry and psychology must recognise the inexplicable nature of the fusion. But this is more suggestive than exact, as the personality of the subject has to be added and considered. In the study of sensation experimental psychology proceeds hand-in-hand with the physiological; but, in regard to memory, comparison and mental work, we are indistinctly connected with a physiological basis. It is only in comparatively simple conditions that the physiological worker can accurately predict what reaction will recur with a given stimulus. The living body is characterised by unknown vital activities, as well as by known mechanical activities. The variability, not only among individuals but in the same individual, is supposed to be against the existence of any science of experimental psychology; but the object is to study Nature, and the variations and properties of mind are affected by different conditions. It is the aim of all science, and the aim of experimental psychology, to analyse, as far as possible, the conditions which may be at work, and to determine the result which must follow provided that these conditions exist.

With regard to hypnotism Dr. Savage's welcome of modern work and recent developments was no less frank. He said that he felt strongly that the time had come when the medical profession must face the fact that though in all directions there is a tendency towards credulity it was absolutely necessary that science should explore and develop the hinterland of philosophy and psychology, and especially the relationship between hypnotism and medical and surgical treatment.

"It has now been found," he said, "by long experience, that there are certain forms of disorder that are better treated by hypnotism than by anything else. It is quite certain that hypnotism alone may not be all that is required, and there, I think, a mistake is frequently made. It is thought that it must be hypnotism and nothing else. But one's experience is that surroundings and general conditions are as important for the treatment as the hypnotism itself. ..... Many nervous cases might be cured without hypnotism, but such cases, in many instances, would be cured more quickly and more satisfactorily by the use of hypnotism. It is certainly contra-indicated in the very highly neurotic. I think those coming of very insane stock should rarely be subjected to its influence. Those who are actually insane are rarely, if ever, influenced by it. Epileptics, as

a rule, do not benefit in one way or another. To put it shortly, nervous disorders that do not depend upon organic brain disease, those mental disorders that are purely functional, and such as do not cross the insane border-line, may be benefited. It has been said against hypnotism that it treats symptoms and does not treat the disease, but it seems to me pretty certain that in many cases if you can alleviate the symptoms you go a long way to cure the disease. In fact, in many cases the symptom is the most serious question; if, for instance, pain is disturbing digestion, rest, and general mental capacity, the relief of pain places the patient on an altogether different footing to that on which he was before. In the same way with sleeplessness. If you can relieve sleeplessness, in many cases the fundamental cause of that sleeplessness may be better treated."

The importance of experimental psychology is becoming generally recognised by the medical profession, and though until recently this country has decidedly lagged behind in the matter of practical investigation, there is now a mass of work being done of great promise for the future.

THE REMOVAL OF SNOW IN THE STREETS.

THIS is not a violent forecast of winter in mid-autumn, but it is just as well to be reminded of the problem of the removal of snow in our streets before the season approaches when we may expect a visitation. There can be little doubt that a snowfall in a busy city is not only a source of inconvenience and of hardship to traffic, but of prejudice to the health also. According to a useful plebiscite of opinion recently obtained by the town clerk of Lambeth on the question, it would appear that in 10 cases of British cities—namely, Aberdeen, Bradford, Bristol, Greenock, Inverness, Leeds, Leicester, Newcastle, Nottingham, and Paisley—the opinion is that a general use of salt for the removal of snow is objectionable from a public health point of view. In the majority of these opinions it is stated that either slush of a low temperature or a freezing mixture is formed which is at least unpleasant for, if not dangerous to, pedestrians, and is distinctly injurious to animals' feet and to foot passengers with defective footwear. The medical officer of Nottingham states in addition that the use of salt is objectionable on account of the deliquescent salts of magnesium present. From other cities various views come. There is a difference of opinion at Edinburgh and Hull, at both of which places salt is used. In both cases the medical officer is strongly of opinion that the use of salt is an objectionable practice, on account of the low temperature of the mixture and the danger to horses' feet and the footwear and health of pedestrians. The city engineers, on the other hand, are in favour of the application of salt. In the case of Hull the city engineer states that he has made copious inquiries amongst horse owners, the majority of whom were urgent for its use, and in addition the temperature of salted and unsalted snow has been taken without any measurable difference having been found. This is a curious finding, because the snow in melting necessarily depresses the temperature, the use of freezing mixtures being based on that fact. The city engineer's opinion is that without applying salt it is impossible to maintain traffic on wood paving. The city road surveyor of Edinburgh considers that salt does no appreciable injury to paved roads, but tends to break the surface of macadamised roads. The medical officers of Dundee, Liverpool, and Manchester consider that no actual harm results from the method of applying salt in their respective cities, though in the case of Manchester it is stated that no doubt people with defective boots suffer severely. At Glasgow the need for salt is so infrequent that the medical officer considers it would be difficult to separate out the illness attributable to the use of salt from the general mass of lung troubles prevalent in snowy weather. The opinion of the medical officer of Leith is that the question is not one influencing public health, save from the danger to persons by saturated footwear. The medical officers of Birmingham, Norwich, and Sheffield do not express any opinion on the matter. In the cases of Berne, Copenhagen, Frankfort, and Leipzig it is stated that no decision has been arrived at as to the advantages or disadvantages accruing from the application of salt, whilst from Breslau and Munich no reply has been received to the question. In the opinion of the authorities responsible for the clearing of the snow at Antwerp, Berlin, Dresden, and Hamburg, the use of salt is prejudicial to public health, the usual grounds for objection being alleged; the reply from Antwerp also states that if small quantities of salt are mixed with ashes the practice is not objectionable when applied to roads first cleared of the bulk of the snow. Some years ago at Amsterdam certain of the tram horses' feet were said to have become diseased through the use of salt, but no complaints of injury to persons have been received from this city; the opinion is expressed, however, that people whose footwear is impregnated with the mixture of salt and snow are apt to catch cold. It is reported from Paris and from Christiania (in which latter place, however, salt is not used except at points and switches only of the tramways) that no danger or disadvantages arise from the use of salt. The opinion at Cologne is that the interest of public heath is little influenced by the use of salt. Salt is used very sparingly and snow is removed immediately at The Hague, so that no complaints as to its use have as yet been made. However effectual salt may be in removing snow, there can be little doubt that the resulting mixture is most unpleasant to pedestrians, and inasmuch as even good leather does not appear to be proof against the cold slush, there is reason for believing that the mixture gives rise to injury to health. It is a pity that flooding snowbound streets with a plentiful supply of hot water is so far impracticable in our cities.

"LATE RICKETS."

WE publish on another page of our present issue an interesting note by Dr. Francis Hernaman-Johnson on a case of the type to which the term "late rickets" is often applied. The patient was a girl, aged 13 years, without any history of rickets during infancy, who at the beginning of her menstrual life began to have difficulty in walking and subsequently developed bending of the legs. This was followed by extensive deformities of the lower limbs and by a left dorsal scoliosis. In spite of treatment by instruments and by prolonged rest the condition, apart from a temporary amelioration while in bed, showed no improvement while under observation. The unfortunate application of the term "rickets" with or without a qualifying adjective to almost any condition producing general deformities in the bones in infancy and childhood has undoubtedly led to confusion and has probably hindered the recognition and separation of some obscure conditions of disease or defect in ossification. That various causes may produce gross results apparently similar is highly probable in regard to a process such as ossification in the skeleton, where many of the resulting deformities depend upon the effects of posture and upon the support of the body by weakened limbs. What is wanted in these cases is further information as to the histological and chemical changes associated with them. Dr. Hernaman-Johnson very rightly points out that in his case the relationship with infantile rickets appears more than doubtful, and asks if it is not wiser to admit frankly that we do not know the etiology of such conditions. There can be little doubt that the term "late rickets" is applied to several distinct affections. It is possible, as Dr. J. F. Goodhart and Dr. G. F. Still suggest in their well-known work on "The Diseases of Children," that some of the cases may be due to recrudescent rickets, since there is no obvious reason why similar changes may not develop during later childhood

to those that occur in the infantile period, seeing that the skeleton is still in an active state of growth, and in a case recorded by Dr. F. G. Dawtrey Drewitt the changes found post mortem in a boy aged 11 years presented characters similar to those in infantile rickets. Probably some of the cases are due to a process akin to osteomalacia or to some as yet unrecognised disturbance of the process of ossification. Owing to the comparative rarity of these conditions observations on fatal cases are extremely few, and it is to be hoped that all such cases will be recorded. It is of interest to note that Dr. Emmett Holt[1] states that he has not seen this disease and that no case has been seen during the past 20 years at a hospital in New York where large numbers of deformities are seen. Dr. Hernaman-Johnson suggests as a possible factor in the etiology of some of these cases some change in the internal secretion of the generative glands, since some of them occur, as in the case which he narrates, at puberty, and he points to the bony and arthritic lesions which may occur during pregnancy and at the menopause in support of this suggestion.

PATHOLOGY AND THE STAGE.

THE translation of a play by M. Brieux is now being acted at His Majesty's Theatre. M. Brieux is one of the chiefs of that interesting group of French dramatists whose subjects have been drawn from the realm of pathology or from that of legal medicine. His writings, along with those of François de Curel, Bruyerre, Henriot, Le Senne, and Mayer, have been discussed and described at some length by M. Eugène Eyriès in a Montpellier thesis ("Les Idées Médicales dans le Théâtre Contemporain"). According to this writer, M. Brieux has not hitherto been favourably known from the scientific point of view. His earliest work, "L'Evasion" (1896), deals mockingly with ideas about heredity and is a violent attack on medicine and its practitioners. "Les Remplaçantes" deals with wet-nursing and the highly contentious question of the endowment of motherhood, and "Les Avariés," censored in Paris in November, 1901, has for its subject the marriage of persons with constitutional disease. These are pathological plays on subjects which cannot properly be treated outside the sphere of professional or expert literature. A folk-lore play, however, is on quite a different footing. And "False Gods," the translation of M. Brieux's "La Foi," is emphatically a folk-lore play. No one can object to a satire on medicine in a drama purporting to present an accurate picture of pre-historic times. In "False Gods" the medical man of ancient Egypt is represented as a sorcerer in league with the funeral dancers, who themselves represent the undertaker of modern times. In his character as magician he utters highly poetical incantations over a dying man, who is relieved when he (the sorcerer) gives up the case with the remark that the evil spirits are winning in the fight over the perishing body and that he will send the funeral dancers round. Akin to the sorcerer medicine-man is the High Priest, impersonated with infinitely dry humour by Sir Herbert Tree. This personage sums up the philosophy of the ancient Egyptian priesthood in the short lecture delivered by him to a recalcitrant young priest. "Of course," says the High Priest in effect, "we Egyptian priests don't believe a jot of what we profess, but we are wise enough to keep the people in the trammels of superstition in order that they may support the hierarchy with their offerings of corn. Nor are we to blame in fleecing them in times of prosperity, for thus we fill the granaries against periods of famine. In the same way we bid the people worship the jackal and the bull, for the jackal is a useful scavenger and the bull is responsible for the continuance of our meat-supply." Such, in effect, was the doctrine of all primitive priestly castes, of the Egyptian, perhaps, especially. Apart from its art, such a play as that now being acted at His Majesty's Theatre is interesting as showing that medical ethics really have improved in the course of ages, and that the deception of the public for their good has long ceased to form part of an esoteric philosophy of the scientific or of the governing classes. The modern scientific spirit aims at getting the support of the public by enlightening them, not by frightening them.

[1] Diseases of Infancy and Childhood, fifth edition, 1909.

THE CRITERION OF COLOUR.

THE impressions which the public have in regard to the colour of food are interesting, but their instinct in this matter may easily be deceived by modern tricks. For some not quite clear reason there are many people who look upon the brown egg as necessarily a new-laid one, and hence a fair demand for brown eggs has arisen, which is easily met not by the honest brown egg, but by the white egg which has been steeped in a dye which renders it visually indistinguishable from the real article. Again, when milk happens to be of a buff tinge it is commonly held to be richer than white milk. Of course, nothing can be easier than to satisfy this preference for a milk of a creamy shade. White-looking butter is disliked as looking too much like dripping. The remedy is simple: it is artificially coloured. Vegetables must be bright green to make them look fresh, the consumers of them being quite willing to ignore the fact that copper does not make them fresh or wholesome. On the other hand, curiously enough, bread must be white, and not the slight brownish colour natural to the flour from which it is made. It is, of course, perfectly natural to take colour as a criterion of the dietetic value or flavour of food, and the attractive or unattractive appearance of food may make all the difference as to whether that food is, or is not, assimilated properly. The deceit which is practised by artificially colouring food may thus serve a useful purpose, so long as the colouring matter is harmless, but as a rule the proceeding is an immoral one. It does not follow that because food is unattractive its value as a food is *nil*, while every form of sophistication is open to commercial abuse. A correspondent last week submitted to us a brown-shelled egg which on opening displayed a gorgeous red colouring scattered chiefly through the white. On analysis the colouring proved to be an aniline dye. The dye had deposited a nice brown on the shell, but an excess had permeated its pores and, meeting with the slightly acid contents, was changed to a port-wine colour inside. Until the egg was opened, therefore, it appeared perfectly attractive, but on opening it the zest to eat it quickly disappeared. There is practically no control over the colouring of foods in this country, and it is obvious that in some instances protection is desirable. If colour is used to give a false appearance of quality there can be no doubt about that being fraud, but whether it is a mischievous fraud depends on particular circumstances.

ASTHMA AND URTICARIA DUE TO AN ICE-CREAM.

IN the *Australasian Medical Gazette* for August Mr. T. I. Wallace has reported the following interesting case. He was called to a woman who suddenly became ill in a shop where she had taken a glass of ice-cream followed by a tumblerful of cold water. In a few minutes she was seized with great dyspnœa, accompanied by running at the nose, lacrymation, and sneezing. Her mother, who was with her, said she became black in the face. Mr. Wallace saw her about a quarter of an hour after the beginning of the attack.

She was sitting on the edge of a bed in a room behind the shop and was feeling a little better. She had still great difficulty in breathing and in consequence was unable to lie down. Her face was very cyanosed, there were free running at the nose and watering at the eyes, and she was covered all over with an abundant urticarial rash. There was a history of one or two similar attacks in childhood which were brought on by drinking cold water when she was over-heated. In a short time she improved and could be taken home. The association of the urticaria with asthmatic symptoms is of considerable interest. It bears out the hypothesis of the late Sir Andrew Clark, which is not generally accepted, that asthma is due to a vaso-motor neurosis analogous to that which occurs in the skin in urticaria. It is well known that in rare cases of urticaria, particularly in the form known as giant urticaria, or acute circumscribed or angio-neurotic œdema, mucous membranes, such as that of the tongue, stomach, intestines, or larynx, may be involved. Angio-neurotic œdema of the larynx may cause sudden death by suffocation. The association of asthma with urticaria is a recognised but rare event; in some cases an attack of urticaria has appeared to take the place of an attack of asthma.

THE TREATMENT OF VIPER BITES.

THE bite of the only venomous snake of this country is rarely recorded in the medical journals, partly because this form of injury only occasionally occurs, but also partly because vipers are most numerous in out of the way parts of Great Britain. The entire absence of the viper from Ireland and the Isle of Man is very remarkable, whether we accept or reject the legend which ascribes it to the action of St. Patrick. Even should a person be bitten by a viper a fatal result is rare, though severe symptoms are always produced. Occasionally, however, death follows the bite of a viper, and it is desirable that all medical men practising in the country should be acquainted with the best treatment of this injury, for the earlier in the case the remedies are applied the more effective they prove. On another page of our present issue we publish an account by Dr. B. B. Sapwell of Aylsham of a boy being bitten on both hands by a viper. Much shock followed, with enormous swelling of the hands and forearms. The treatment adopted consisted in the application of a Bier's elastic bandage to each arm above the elbow, incisions into the swollen part, and the local application of permanganate of potassium. Later some antivenom serum was injected, and ultimately recovery followed. Several points of interest are raised by the treatment adopted. The use of the Bier's bandage doubtless served to restrict the absorption of the poison without interfering with its arterial blood-supply, and the incisions not only relieved the tension of the parts but allowed the draining away of the venom-infected lymph. It is probable that the employment of Bier's suction method to the bites would have been efficacious in abstracting the poison, especially as the bites were inflicted on fingers to which Bier's glasses could easily be applied. The value of the permanganate of potassium in snake bites has often been shown, but it can hardly reach much of the venom, though where the poison can be reached the permanganate is able to destroy it. The main interest, however, attaches to the use of the antivenom serum. This, as sold in this country, is prepared by the use of the venom of several of the more poisonous snakes, including the cobra and the daboia, and it has been shown to be efficacious against a very large number of them. In the case to which we have referred it appears to have been of use, and it is clear that it did no harm. It should certainly be injected in all cases of viper bites, and the sooner this is done after the infliction of the injury the greater the probability of success. The main obstacle to its use is the difficulty of obtaining it promptly elsewhere than in the chief towns. We referred to this subject in THE LANCET of August 21st last, p. 585, when we summarised Professor Calmette's directions for the treatment of viper bites. We congratulate Dr. Sapwell on the success which attended his prompt and intelligent course of treatment.

THE WORKING OF THE MIDWIVES ACT.

AT an inquest recently held in the City by Dr. F. J. Waldo several points came under discussion in connexion with the operation of the Midwives Act, 1902. A medical man had been called in to a confinement under the advice of a midwife, given under her statutory obligation to do so, and he had attended, as he stated was his practice, without any certainty or, it might be added, any expectation of receiving a fee for so doing. This hardship has now continued for some years, although locally some attempts have been made to abate it. It is a matter in which the proper remedy must come from the legislature which has created the difficulty, and the Report of the Departmental Committee on the Working of the Midwives Act has endorsed this view so strongly that we can hardly imagine that the abuse will go long unheeded. The question of who may be adjudged ultimately liable should not affect the safety of the patient or the position of the medical practitioner. The midwife acting under the rules of the Central Midwives Board has been compelled to advise that he should be summoned, declining, meanwhile, to attend alone; and owing to the form in which the summons is sent it is in effect the midwife's appeal for medical assistance, although, strictly speaking, it is that of the patient or her relatives acting on the midwife's recommendation. At the inquest before Dr. Waldo it was not shown that any blame attached to the midwife in respect of her attendance, the body being that of a child for whose still-birth natural causes had been responsible. The qualification of the midwife was, however, inquired into, and it was found that she had been struck off the midwives' roll two years before, and her request for re-instatement had not been granted by the Central Midwives Board. She was an Austrian, and the father of the child was a German Pole. It will be remembered that at present this woman, as any other, whether enrolled as a midwife or not, is permitted to practise as such, but not to take or use the title of midwife or any other description or title implying that she is certified under the Midwives Act, 1902. After April 1st, 1910, however, a new state of affairs will arise and uncertified women will be forbidden by law to practise at all. The subsection dealing with the matter may be quoted, as the time is drawing near for its legal enforcement and, as will be seen from the wording employed, such a process is not likely to be altogether easy.

> Section 1., Subsection 2: From and after April 1st, 1910, no woman shall habitually and for gain attend women in childbirth otherwise than under the direction of a qualified medical practitioner unless she be certified under this Act. Any woman so acting shall be liable on summary conviction to a fine not exceeding £10, provided this section shall not apply to legally qualified medical practitioners or to anyone rendering assistance in a case of emergency.

It will be seen from this that the offence to be proved against an uncertified woman acting as a midwife will not be that she so acted in a single case, for hire or otherwise, but that she does so "habitually and for gain." The two essentials of habitual practice and of remuneration will often not be found easy to establish, and presumably if proof of two or three cases only is adduced the defence that "assistance was rendered in a case of emergency" will frequently be raised. It will be interesting to see how this section works in practice. It will not be forgotten that it involves a principle of great importance, affording, as it does, to parturient women

a protection against women not qualified to attend them. Similar protection in pathological troubles is not vouchsafed to the other members of the public or to women not in childbirth. Other unqualified practice of medicine and surgery remains uncontrolled and women in childbirth can employ "men midwives" who are unregistered, so long as these men do not pretend to be on the Medical Register.

EXOPHTHALMOS IN CHRONIC NEPHRITIS.

IN the *American Journal of the Medical Sciences* for October Professor L. F. Barker of the Johns Hopkins University and Dr. F. M. Hanes have called attention to a remarkable sign of chronic nephritis which does not appear to have been previously noticed—exophthalmos. During the first four months of the present year 33 patients suffering from chronic nephritis were admitted to the Johns Hopkins Hospital, and exophthalmos was found in 16 (48·4 per cent.). The exophthalmos varied much in degree as did the gravity of the nephritis. In cases showing evidence of serious intoxication (uræmic or suburæmic symptoms) exophthalmos was most frequent and was combined with one or more allied ocular signs—anisocoria, von Graefe's, Moebius's, or Stellwag's sign. Exophthalmos was an obvious sign in all the patients who died from chronic nephritis in the hospital since Jan. 1st, 1909. Also in the cases in which albuminuric retinitis was present during this period exophthalmos, with one or more of the other ocular signs, was always present. All these classical signs of Graves's disease may be present in chronic nephritis without any apparent affection of the thyroid gland. Professor Barker and Dr. Hanes therefore conclude that in both diseases a chronic intoxication affecting the sympathetic nervous system causes the ocular manifestations. In 12 out of the 16 cases there was high blood pressure (above 160 millimetres), but its absence in the other cases shows that the exophthalmos cannot be ascribed to it. Evidently both conditions are due to chronic intoxication. The following are two of the cases. A painter, aged 51 years, and addicted to alcohol, was admitted on Jan. 15th, 1909, complaining of severe pain all over the body and headache. In 1901 he was treated for lead poisoning and peripheral neuritis. He was subject to severe headaches as long as he could remember. His sight had been failing for the last five years and for the last two years he had suffered from attacks of palpitation and orthopnœa. He passed large quantities of urine by day and night. He was thin and anæmic, and his skin was dry and harsh. The eyes were prominent and staring. The heart was slightly enlarged and the arteries were sclerotic. Ophthalmoscopic examination showed albuminuric retinitis, œdema, exudation, and hæmorrhages. The urine was pale, of specific gravity 1012, and contained albumin, many granular casts, and pus and epithelial cells. On the day after admission convulsions occurred, and on the following day the patient died. At the time of death the exophthalmos was much less marked. The necropsy showed advanced acute and chronic diffuse nephritis, œdema of the brain, hypertrophy of the heart, broncho-pneumonia, pleural œdema, and acute pericarditis. In another case a metal polisher, aged 46 years, was admitted on March 4th, 1909, complaining of shortness of breath and pain in the back and left side. His illness began four weeks before with dyspnœa and palpitation. He got up six or eight times at night to pass urine. His legs were sometimes swollen in the mornings. He was well nourished. The eyes were very prominent and the conjunctivæ were slightly œdematous. The pupils were small and reacted to light. Moebius's and Stellwag's signs were present. There were marked retinal arterio-sclerosis and typical albuminuric retinitis. The heart was enlarged and marked general arterio-sclerosis was present. The urine was increased in quantity, pale, of specific gravity 1012, and contained albumin and hyaline and finely granular casts. The blood pressure was high, ranging from 200 to 230 millimetres of mercury. The patient's family said that his eyes had grown prominent in the last eight months.

PROFESSOR OSLER'S ADVICE TO LONDON STUDENTS.

ON Oct. 15th Professor William Osler visited the London Hospital to declare open the new laboratories for chemistry, physics, and pathology, which have been erected recently at a cost of some £8000. He was received by the Principal and the Vice-Chancellor of the University of London, Mr. Sydney Holland, chairman of the hospital, and the staff and lecturers of the hospital, who conducted him through the new laboratories, after which the opening ceremony was held in the Physiological Laboratory under the presidency of Dr. Leonard Hill. Professor Osler delivered an address which was divided between the praise of research and the impeachment of the University of London for not having found a way to provide a readily accessible M.D. degree for the industrious London student. Of research he said that every student should cultivate it without thought of examinations, and that he should regard it as the complement of his clinical studies and not as a thing apart. Of the University of London he declared that there was "something rotten in the State," and reminded his hearers that "the Lord helps those who help themselves." In a word, the students should organise and agitate in a constitutional manner, and then they would get their degree within a year or two. The Vice-Chancellor, who replied to Professor Osler, threw the blame on the Faculty of Medicine with its 400 teachers, which, although the University had been reconstituted for nine years, had not sent up a definite proposal on the subject that could be considered by the Senate, a quarter of whose members had medical qualifications. He supported Professor Osler, however, in his advice to the students to organise to deal with the matter. The proceedings were brought to a conclusion by the delivery, in the library, of Professor Osler's Schorstein address on the Relation of Aneurysm to Syphilis.

BRITISH RADIUM.

THE announcement that radium is to be both quarried and recovered from its ore in England must be regarded with satisfaction. We believe, however, there are still mines in Cornwall from which a comparatively rich pitchblende is sent to Germany for the extraction of its radium. The foundation-stone of the radium and uranium works of the St. Ives Consolidated Mines, Ltd., and the British Radium Corporation, which are to be erected in Limehouse, was laid by Lady Ramsay on Saturday, Oct. 16th. It appears that some stimulus has been given to the enterprise by Sir William Ramsay's discovery of a process which will considerably diminish the time taken to recover radium from its ore. Hitherto the process has involved some months' working, whereas now it is stated that it can be done in as many or even less number of weeks. This is a step of considerable importance, having regard to the infinitesimal quantity of radium present in the raw material. Sir William Ramsay said that when his attention had been called to the occurrence of pitchblende in Cornwall he did not foresee that the demand for radium would be great, while he also thought that the difficulty of supplying it would be considerable. With the formation of a radium institute he felt bound to withdraw his former opinion. The question whether subsequent investigation will show radium to be of still greater

value in medical science must remain open. So far the results had been encouraging, and the success which has attended the application of radium rays in some diseases is rapidly opening up new questions of the greatest interest. But what we may term photo-therapy is still only in its infancy, and as the analysis of radium rays proceeds it is just possible that rays of the nature of radium rays may be obtained by mechanical means, in which case we should not be so dependent upon radium. That would be an undoubted advantage, seeing what small quantities of radium are available and what labour is involved to separate them.

THE LATE PROFESSOR LOMBROSO.

Professor Cesare Lombroso, who died suddenly from heart disease on Tuesday last at his residence in Turin, had a world-wide reputation as the author of works which have greatly exercised the minds and pens of criminologists, psychologists, social reformers, and other students of human degeneracy in its various aspects. Of Jewish descent, he was born at Verona in 1835, took a medical degree at Padua, and served in the Italian campaign against Austria in 1859. His literary career commenced at a very early age, and was for more than 40 years extremely successful, although the somewhat fantastic ideas embodied in several of his works have gained but few adherents in England. His "L'Uomo Delinquente" and "L'Uomo di Genio" contain a full presentment of his anatomical, pathological, and atavistic theories of crime and genius.

A TYPHOID CUTANEOUS REACTION.

IN 1907 von Pirquet described his tuberculin cutaneous reaction, which was soon after followed by the announcement of the tuberculin conjunctival reaction by Calmette. Inspired by these discoveries Professor Chantemesse investigated the effect of the toxins of the typhoid bacillus on the conjunctiva in typhoid fever and discovered a typhoid reaction analogous to the tuberculin reaction. Calmette's reaction proved a trustworthy test for the diagnosis of tuberculosis, but in some cases the reaction proved severe and even provoked ulceration of the cornea. Hence it has been to a large extent abandoned in favour of the safer cutaneous reaction. In the *University of Pennsylvania Medical Bulletin* for August Dr. S. J. Deehan has described a typhoid cutaneous reaction analogous to the tuberculin cutaneous reaction which promises to be useful in the diagnosis of typhoid fever. He undertook the investigation because the dangers of the tuberculin conjunctival reaction suggested to him that the typhoid conjunctival reaction might also be dangerous. His technique was as follows. A strain of virulent typhoid bacilli was grown on agar-agar for 24 hours. The bacilli were then washed from the medium with normal saline solution and shaken up in a test-tube so as to distribute them and break up the clumps. The fluid was incubated for four days at 37·5° C. At the end of this time it became partly clear from sedimentation of the bacilli, which were more or less disintegrated. The fluid was then sterilised at 60° C. for half an hour, and centrifugalised for from two to six hours. The clear supernatant fluid was pipetted off into sterile tubes. The number of bacilli per cubic centimetre was determined by Wright's method of standardising vaccines. A solution of the strength of three billions of bacilli to the cubic centimetre was found to give the best results. The fluid was tested by cultures to ensure its sterility—a point of great importance. This fluid contained the toxin of the bacilli. The more virulent the bacilli used and the less they were modified by cultivation, the more powerful the extract. The fluid retained its strength for several weeks and then gradually grew weaker until nearly inert. The cutaneous reaction was obtained as follows. A drop of the fluid was placed on the skin, and then with a lancet a slight abrasion was made under the drop. Only the most superficial layers of the epidermis need be removed, as it is necessary only to open the superficial lymph channels and unnecessary, and even undesirable, to draw blood. At a distance of about an inch a control abrasion should be made under a drop of normal sterile saline solution. There are three grades of positive reaction: 1. A feeble reaction, which consists of a hyperæmic zone 2 to 4 millimetres in diameter, in the centre of which is a papule; the skin is slightly swollen and hard. 2. A medium reaction. The hyperæmic zone is 4 to 8 millimetres in diameter and there are numerous very prominent papules. Sometimes the skin is œdematous throughout the area. The redness may persist for hours or for one or two days. 3. A strong reaction—an intensification of the last reaction. The area of reaction is very resistant to touch and the area of hyperæmia is 2 to 3 centimetres in diameter. If the subjacent œdematous area is marked there is an appearance of urticaria. Occasionally at the points of scarification serous fluid exudes. 12 cases diagnosed clinically as typhoid fever gave a positive reaction in from 15 to 24 hours. The day of the disease on which the test was applied varied from the seventh to the twenty-second. The test did not cause the patients any annoyance or discomfort. The test was also tried in eight control cases of various diseases—heart disease, neurosis, acute gastritis, chronic bronchitis, acute rheumatism, pulmonary tuberculosis, cardiac asthma, and cancer of the uterus. In none was there the slightest evidence of a reaction. Dr. Deehan concludes that the typhoid cutaneous reaction is of considerable diagnostic value and is without danger. It was frequently obtained several days before a positive result with the Widal test could be got, and therefore in a doubtful case would enable a diagnosis to be made earlier than by this method. But its greatest value lies in the fact that it can be performed by the practitioner himself without any laboratory assistance.

THE PHARMACOLOGY OF THE LEECH BITE.

THE leech, it seems, is to take a place among those empiric remedies which in these later scientific days have been established by the discovery of a rational basis for their employment. Wiel and Boyé,[1] in comparing the effect of a true leech-bite with that of the scarification made by an artificial leech, call attention to their observation that while hæmorrhage ceases soon after the removal of the latter blood continues to ooze from the wound of a leech long after it has gorged itself and fallen off, in some cases for as long as 36 hours. Moreover, the clot which forms at the end of this period is soft and non-adherent, and if it be lifted off the wound bleeding may start again. A study of the blood collected from a leech-bite shows that in its method and rate of coagulation it imitates that of the blood in hæmophilia, and the likeness is completed by the effect of adding human serum, two drops of which suffice in both cases to accelerate the process of clotting. The retardation of clotting was found to vary in the blood from different leech-bites, and this variation was further shown to depend, not on the patient, but on the leech. This tallies with the observations of Haycraft, who found a substance hostile to coagulation in the head of the leech, contained apparently in certain salivary glands. This substance, as Weil and Boyé show, exercises its influence mainly, but not solely, at the spot bitten; the coagulation time of the blood from remote

[1] La Semaine Medicale, 1909, No. 36, p. 421.

parts is also increased, and recurrences of epistaxis have been recorded in persons to whom leeches had been previously applied. Again, injection of leech extract into rabbits brings about a condition of affairs which is a good imitation of hæmophilia. The writers conclude with the rather ambitious statement that bleeding by means of leeches possesses all the advantages of phlebotomy without any of its drawbacks.

THE LONDON MILK-SUPPLY.

BETWEEN July 1st and Oct. 8th, 1909, 645 samples of milk sent to London railway termini from the home and western counties have been examined on behalf of the London County Council. The examination of 578 of the samples has been completed to date, with the result that 33, or 5·7 per cent., were proved to be tuberculous. Since the Council obtained powers to take samples (under their General Powers Act of 1907) 1721 samples have been taken and 1254 of these examined, 114, or 9 per cent., being proved to be tuberculous. The powers granted to the Council under the same Act to visit farms outside London have been made use of to a considerable extent. 53 farms were visited during last quarter and 2067 cows inspected, 27 of which suffered from tuberculosis of the udder. Since the Act came into operation on July 1st, 1908, 12,170 cows have been examined and 289, or 2·4 per cent., found to have tuberculous udders. The whole of this useful work in safeguarding the milk-supply of London is being done at a cost of a little more than £1000 a year.

THE IMPERIAL MALARIA CONFERENCE.

IN our issue of Sept. 25th we gave an outline of the circumstances in which the Government of India had decided to convene a conference of delegates from local governments to examine a number of questions relating to malaria. This conference, which met at Simla on Oct. 11th, has now concluded its sittings and has made recommendations very much on the lines which might have been anticipated. According to the report furnished to the *Times* by Reuter, these recommendations have been drawn up under six main heads, of which the four first are in substance as follows: (1) The appointment by the Government of India of a scientific investigation committee for inquiry into the distribution of malaria in India, its epidemiology, and the action of quinine and other remedies; (2) the checking of existing vital statistics so as to determine the exact causes of death; (3) practical measures, including the extirpation of anopheles, drainage operations, the introduction of fish into tanks and other collections of water, and the oiling of certain collections of water; and (4) the use, sale, and distribution of quinine.

THE ENDOWMENT OF RESEARCH.

Dr. R. C. Brown of Preston has generously promised to continue for a further period of two years the pathological scholarship of £150 per annum which he has founded in connexion with the Committee for the Study of Special Diseases in Cambridge. It will be remembered that we have reviewed the bulletins of this committee dealing with its investigations upon rheumatoid arthritis, and it is noteworthy that it has elected to study one of the chronic diseases which are as a rule unduly neglected in research although they cause a far greater sum of human suffering than do the acute disorders which are so much more striking in their manifestations and more dramatic in their cure. But the chief point of interest and encouragement about the work of the Cambridge Committee is that it has largely been made possible by the generosity of an individual member of the medical profession, and we commend this excellent example to those who are in a position to follow it, be they medical or lay. No better benefaction can be made to the commonwealth than the endowment of medical research, but although the responsible body of educated opinion in this country is on the side of truth and enlightenment such endowment is still scanty. All medical men should preach the necessity for the endowment of scientific work; it is only the lot of a few to be in a position to make gifts, but when such a one comes forward his action is doubly welcome.

RESULTS OF VARIOUS TREATMENT OF KERATOCONUS.

KERATOCONUS or conical cornea, which occurs about once in ten thousand cases of eye disease, is, we are told by Mr. J. Herbert Parsons, probably in the majority of cases a congenital affection. De Schweinitz, on the other hand, remarks that it is rarely congenital, usually developing after the age of 15 and in women. Its etiology is unknown and it has been seldom examined microscopically. By some it has been attributed to increased intraocular pressure; by others to malnutrition consequent on exhausting illness, menstrual disturbance, and chronic dyspepsia; by others to defective embryological development; and by others again to some affection of the uveal tract. The cornea when examined under the microscope has been found to be thinned near the centre, but with the membrane of Descemet unaltered. The membrane of Bowman was also thinned and wrinkled and there were spaces in the superficial layers of the epithelium. The apex of the cone is usually nebulous. In well-marked cases the conical form of the corneal protrusion is striking when the cornea is viewed laterally as is well shown in a figure by Ball.[1] The symptoms in the early stages of slighter forms of the disease are those of astigmatism, but in the higher degrees there are headaches, pain in the eye, near sight, polyopia, and great impairment of vision. It is a slowly progressive affection, but neither ulceration nor rupture occurs. At the last Congress (1909) of the French Ophthalmological Society questions were proposed as to the best treatment of keratoconus and how long the effects lasted. M. Parisotti was charged with the duty of reporting on the subject. In the course of his remarks he observed that amongst the many letters which he had received not one had made any allusion to the duration of the results obtained. Nevertheless, as he truly remarked, it is impossible to formulate with precision any judgment founded on the various modes of dealing with this condition. In an article contributed to the *Recueil d'Ophtalmologie* (No. 8, 1909), M. Ch. Sauvineau adduces two cases of keratoconus in both of which the material improvement resulting from the treatment has been maintained, in one case for 12 years and in the other for 15 years. In the first case the patient, aged 31 years, had long been under the care of M. Panas, who had treated him with myotics and compress bandage. An iridectomy was performed at the infero-internal segment of the iris, the artificial pupil being narrow and at the lower part of the iris. The improvement in vision was so great that to avoid the confusion that resulted from the entrance of light through the natural pupil the most prominent point of the cornea was lightly touched with the galvano-cautery twice. Finally, the opacity was tattooed with such benefit that the patient was able to discharge his duties as a civil engineer. The second case was treated successfully with glasses. In the same journal is a note by Dr. Antonelli on the case of a young woman, aged 34 years, who was materially assisted by cylinders. In addition, as she particularly enjoyed the opera, he had specially ground for her a pair of

[1] Modern Ophthalmology, p. 344.

contact glasses (*verres à contact*), which, as soon as she reached her box, she was able, after inserting a cocaine tablet, to slip under the lids, and bear without discomfort for the whole evening. In addition, she applied pilocarpine night and morning, followed by a compressive bandage. Examinations have been made from time to time with test-types and have shown no increase in the development of the disease. Dr. Antonelli questions the advantage of the hydrodiascope of Lohnstein.

A TELEGRAM from the Governor of Mauritius to the Secretary of State for the Colonies stated that 20 cases of plague with 16 deaths were reported during the week ending Oct. 14th.

SOME CONSIDERATIONS OF MEDICAL EDUCATION.

I.

A Bird's-eye View of the Present Curriculum.—The Supervision of the General Medical Council.—The Merits of the Scheme.

IN this short series of chapters on medical education many things will be said which have been said before and said by many people. But the risk of appearing to repeat old cries must be taken if the difficult subject of medical education is to be treated of at all fully and placed before the reader in such a way that he can appreciate the questions at issue even though he have not given them much thought before. And, alas, there are many medical men who are only now beginning to wake up to the fact that the education of our students is of enormous importance.

The ground can be best cleared by giving a bird's-eye view of the curriculum so far as it is common to all the medical schools and educational bodies through which a place on the official roll can be obtained, while showing at the same time that this curriculum is supervised by the General Medical Council in such a way that whatever the machinery employed the result should be to turn out an adequately educated man. Every year the medical journals publish educational issues in which the salient circumstances of all the medical schools are fully set out—the names of the professors and lecturers are given, the fees to be paid by the students, and the prizes and scholarships to be gained. In the Students' Number of THE LANCET there will also be found full particulars of the ancillary medical schools where a certain part of the medical curriculum can be taken out, as well as a summary of the course to be pursued by students desirous of a commission in one of the services or of an opportunity to serve under Government. None of this information need be repeated here, but a few generalisations from it and from the annual reports of the General Medical Council and of the various medical schools may be given, both as an indication to show the present state of medical education and as a standpoint whence we may look a little into the future and forecast what may happen and express hopes as to what *should* happen—the processes being not necessarily identical.

The position of medical education in Great Britain and Ireland at the present day is in a similar plight to the professional position; there is much that calls for criticism and much that needs reform, but the story is one of progress. Medical education is in many particulars open to amendment, but the principles, as laid down by the statutory educational bodies and endorsed by the General Medical Council, appointed by Act of Parliament as the coördinating authority, are sound, and this point is one that cannot be too much insisted upon in view of the frequent detraction from the work of the General Medical Council. The desire of the General Medical Council ever since its institution has been to secure an adequate curriculum for the medical student, so that the medical practitioners of England, Scotland, and Ireland, through whatever qualifying body as a medium they may enter the medical profession, should discharge their duties in accordance with a due, even a high, standard of efficiency. As this has also been the aim of the various qualifying bodies, the great majority of which were in existence years before the institution of the General Medical Council, the educational work of the Council as a standardising authority has been simplified. The Council as the central educational authority has had to do work in most instances in directions in which the various bodies to whom medical education is in detail committed are anxious to work. The Council, however, has recently been confronted with difficulties mainly arising from the general development of medical knowledge and the consequent increase of subjects for which space has to be found in the student's curriculum, but due also to a want of complete accord in the aspirations of all the qualifying bodies and to the special circumstances which surround the medical student at the London schools.[1] These difficulties are very real, as further consideration of them will show.

The scheme which the various qualifying bodies have adopted by a sort of general consensus of opinion, and which is approved of by the General Medical Council, may be summarised as follows. Firstly, the student must pass a preliminary examination which is not of a stringent character. Secondly, he must enter upon a five years' curriculum from the date of passing that examination, during which time he must submit himself to three tests—a preliminary scientific examination, an intermediate examination, and a final examination. The preliminary scientific examination, the subjects of which are chemistry, botany, biology, and physics—the subjects which are sometimes termed ancillary—should be passed at the end of the first year; the intermediate examination, the subjects of which are anatomy and physiology, should be passed at the end of the third year; the final examination, the subjects of which are medicine, surgery, and obstetric medicine, should be passed at the end of the fifth year. From this bald synopsis of the general medical curriculum the aim of the education authorities can be gathered. The first year of the medical student's curriculum should be devoted to the more or less elementary study of the sciences which he will later find are necessary to the comprehension of medicine—the ancillary sciences; the next two years should see him in the dissecting-room and the physiological laboratory learning to appreciate the shapes, dispositions, relations, and functions of the normal human body, as the only method of detecting and understanding any lapses into disease or pathological conditions due to injury; and the last two years of the curriculum will be spent in the wards and out-patient departments of a hospital.[2] Such is the ideal division of the medical student's time during a compulsory course of five years' duration; but the average time taken in accomplishing that course is nearer seven than five years, and every development in scientific medicine threatens, unless the seriousness of the situation is recognised, to increase this already considerable time.

The duration of the medical curriculum has been extended in obedience to the vastly greater scientific and professional equipment that is now required of the medical practitioner

[1] Mr. F. C. Wallis, the Dean of the Charing Cross Medical School, has recently called attention to this matter in a vigorous speech at the opening of the new medical session, and his words have received considerable attention in the daily press. (See THE LANCET, Oct. 9th, p. 1093.)

[2] Dr. Samuel West, in his Presidential Address to the Medical Society of London, included an excellent synoptical table showing the relation of the ancillary sciences to medicine, THE LANCET, Oct. 16th, p. 1121.

in whatever branch of medicine he may be called upon to practise. Many years ago, nearly 30, it was extended from three years to four, while a change made 12 years ago extended it from four years to five. Each change necessitated a rearrangement of their examinations upon the examining bodies, and the result is that at the present moment a great similarity appears in the educational course of all of them, every student having the same subjects to read and to acquire practically in the same space of time. This uniformity may be insisted upon a little, for it is exactly what would *not* be expected to exist where over 20 educational institutions, having their homes in different countries and drawing their *clientèle* from different classes, compete against each other for the patronage of the student requiring a qualification. The fact that at the present time, under a system in which many faults of detail can be found, a high general level of education is maintained, making down-grade competition improbable, is very striking. And it has a forcible bearing upon propositions for reform because it suggests that the existing condition is a sound one and that nothing is required save to simplify it—(1) by removal of the anomalies that are due to its growth into a whole from many separate directions, and (2) by resistance to unnecessary developments undertaken with the vain hope of examining students, whose season of acquisition must be limited, in all the unlimited extensions of modern medicine.

The scheme of medical education in England, Scotland, and Ireland to-day is very nearly uniform. The preliminary examinations are easy, perhaps too easy, the intermediates and finals are thorough. The entrance to practice is better guarded at one door than at another, but everywhere the curriculum is well devised and may turn out good men. Moreover, the various educational bodies are zealously and constantly watched by the General Medical Council, which is never accused of being supine in respect of educational supervision. The final examinations of all the universities and corporations are tested periodically by the visitors and inspectors of the Council, and from the reports which these officials make from time to time to the Council a very good idea of the present state of medical education in the various centres can be obtained. The Apothecaries' Hall of Dublin, which turns out now very few qualified men, is the only body which has recently taken up the attitude that these inspections are derogatory to the dignity of a corporation, but it is necessary for the Council to be on the look out for any down-grade competition.

The process of inspection is as simple as it is drastic. The General Medical Council deputes a visitor, a member of the Council, and an inspector, not a member of the Council, who attend from time to time as the Council directs at the qualifying examinations of particular bodies. The visitor and inspector can attend together or separately as they are instructed, and can make joint or several reports. They read some of the candidates' papers and make their own marks upon them, which they afterwards compare with the marks made by the examiners. They listen to the clinical and oral examinations of the candidates and take note of the style of questions that are asked and the style of answer that is accepted. They observe the facilities provided for convenient examination of the candidates, the supply of instruments and pathological specimens, the precautions against copying, the amount of time allotted to the examination *viva voce* of a candidate or the answering of a written question. And finally, they attend at the adjudication of the examiners upon the candidates' merits. In this thorough way they can see if the examination is kept at a proper standard and if the student obtains fair play; and there is no doubt that the criticisms of the Council's delegates, though sometimes resented by the criticised educational body, have been most valuable in maintaining a high general standard of medical training. The supervision of the Council is very real and minute, and the strictures which have been passed in some directions show that all qualifying bodies, whatever their position, are treated with the same respect, while the value of the work is proved by the fact that an indifferent report on one occasion is observed to be followed usually by a good report on the next occasion.

Our medical curriculum has, then, these things to be said for it. It is carefully devised and thorough—in comparison with that of other countries it stands well; it is uniform in essentials, despite the anomalies that are due to the fact that degrees and diplomas can be given by such widely different bodies; an independent and powerful Government department, through the General Medical Council, watches over the curriculum and the examinations which close it, to ensure the maintenance of a certain standard. The precautions taken by the General Medical Council with regard to the examinations are all directed towards making the tests fair, towards eliminating the element of chance as far as possible from them, and towards the practical equipment of the medical man for his public duties. There is plenty of room for improvement in the general educational scheme, but as far as it goes it is satisfactory. All medical men must submit themselves to a carefully standardised trial before they win a place upon the official roll of their profession, and so become legally qualified to minister to the public needs.

But because the medical curriculum has so many pleasant things that can be said about it we must not be blind to the fact that the difficulties of medical education are increasing, that the burdens alike of teacher and taught are now very heavy, and that there is an amount of wasted effort which is tragic.

(To be continued.)

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

MEETING OF COUNCIL.

A QUARTERLY meeting of the Council was held on Oct. 14th, Mr. H. T. BUTLIN, the President, being in the chair.

The SECRETARY reported the death on Oct. 1st, at the age of 76 years, of Sir Thomas Smith, Bart., K.C.V.O., Honorary Serjeant-Surgeon to the King, past vice-president and past member of the Council. It was resolved—

That the Council do hereby record their deep regret at the death of Sir Thomas Smith, Bart., K.C.V.O., whom they highly esteemed for his valuable services to the College and whose personal character made him an object of affection to all his colleagues. The Council do also desire to express their very sincere sympathy at the loss which his family have sustained by his death.

The SECRETARY also reported the death on Oct. 5th of Dr. William Rivers Pollock, examiner in midwifery under the Conjoint Examining Board.

The PRESIDENT stated that the vacant examinership in midwifery would be filled up at the meeting of the Council in December.

The diplomas of Fellow or Member were conferred upon the following gentlemen, who have complied with the respective requirements, viz.:—Diploma of Fellow: Albert Edward Mortimer Woolf, M.R.C.S., L.R.C.P., B.C. Cantab., Cambridge University and London Hospital. Diploma of Member: Enoch Turner Atkinson, M.D., M.S. Toronto, Toronto University and Middlesex Hospital; Lancelot Bromley, B.A. Cantab., Cambridge University and Guy's Hospital; Isaac Marcus Edis, London Hospital; Patrick Clive Fowell, B.A. Oxon., Oxford University and St. Bartholomew's Hospital; Harold Edward Jeffreys, M.B., B.S. New Zealand, New Zealand University and Middlesex Hospital; and Charles Dudley Roberts, Guy's Hospital.

The Licence in Dental Surgery was conferred upon Percie Chater Charlton, D.M.D. Harvard, Harvard University and

Guy's Hospital; Linton Albert Ramsey Fennell, Middlesex and Royal Dental Hospitals; and Philip Reginald Helyar, Guy's Hospital.

Sir Henry Morris was re-elected for three years a member of the committee of management.

A report was read from the President and Vice-Presidents on the proposed celebration of the jubilee of the Grant of the Charter enabling the College to confer Diplomas in Dental Surgery.

It was resolved in accordance with this report that the celebration should take the form of a dinner given by the College to the leading members of the dental profession. The date of the dinner will be Thursday, Dec. 2nd, and it will be given in the library of the College.

Mr. R. Clement Lucas was elected for three years the representative of the College on the court of governors of the University of Sheffield.

A letter was read from the joint secretaries to the Royal Commission of University Education in London stating that in the early part of next year the Royal Commission will be prepared to receive information regarding the view of the Royal College of Surgeons of England upon questions connected with medical education in London, and that as soon after the close of this year as possible the Commission would like to have a statement of the nature and scope of the evidence proposed to be given and the names of the witnesses who will represent the College.—The matter was referred to a committee.

Mr. EDMUND OWEN, on behalf of the Committee on the Annual Report of the Council, submitted a draft copy of the report which is to be presented to the Fellows and Members at the annual meeting on Thursday, Nov. 18th.—The report was approved and adopted.

THE ANNUAL REPORT OF THE COUNCIL.

The report contains a record of the work done in the various departments of the College during the collegiate year ending on August 1st last. With regard to the proposed combination of the Royal Colleges of Physicians and Surgeons with the University of London (mentioned in the last annual report) to consider a scheme for establishing a system of Conjoint Examinations in accordance with Statute 123 of the University, the delegates appointed by the Royal Colleges in reference to the matter state that, taking into consideration the provisions of the statute, the existing conditions of medical education in the metropolis and the undoubted demand for a degree in Medicine which shall be more accessible to the average London medical student, and assuming the existence of a general desire on the part of the University, the Royal Colleges, and the medical schools of London to unite in a concerted effort to provide such a degree, they, the delegates, are of opinion that there should be little difficulty in arriving at an equitable and advantageous solution of the problem.

In considering the scheme the delegates state that they have taken as a basis of their deliberations the following principles: (*a*) That the University should retain all its existing rights as to the granting of degrees, but should consent to exercise them as regards pass degrees conjointly with the Royal Colleges so far as those students are concerned who shall have spent not less than four years in study at London medical schools and hospitals, and who shall have complied with such conditions as the University and the Royal Colleges may determine. (*b*) That the Royal Colleges should retain all their existing rights to grant diplomas to those who are not eligible under the foregoing conditions, or to those who do not desire to come under such conditions. (*c*) That the Royal Colleges should be associated with the University in conducting the Preliminary Scientific, Intermediate, and Final Examinations for the Pass Degree (M.B., B.S., M.D.). The delegates believe that this arrangement will secure the following advantages: that the average London student will be able to obtain the degree of Doctor of Medicine; that medical education in London will become more systematised; that there will be a reduction in the number of examinations to be passed by the student desiring to take a degree and the diplomas; that a larger proportion of students would be encouraged to avail themselves of the great opportunities of clinical study afforded by the hospitals of London; and that the University and the Royal Colleges acting together with the same staff and equipment would be able to reduce the expenditure on examinations. The delegates further state that, should the principle of an association between the University and the Royal Colleges be accepted, they are prepared to bring forward a working scheme for carrying the proposal into effect.

Since the reception of the report of the delegates a Royal Commission on University Education in London has been appointed, and the College will be afforded the opportunity of giving evidence before the Commissioners at some date in 1910. In the meantime the Royal Colleges have approached the University of London and the delegates of the Royal Colleges have met representatives of the University and placed the proposed scheme for combination before them.

With regard to the question of the administration of anæsthetics and in answer to a letter received from the General Medical Council inquiring how far the College had given effect to a recommendation of that Council as to requiring students to produce evidence of having received practical instruction in the administration of anæsthetics, the Council of the College replied that the desirability of making practical instruction in the administration of anæsthetics a compulsory part of the medical curriculum was recognised by the College in 1901, and that, in conjunction with the Royal College of Physicians, a regulation was adopted in that year requiring a candidate before admission to the Final Examination to produce a certificate "of having received at a recognised medical school and hospital, instruction in the administration of anæsthetics to the satisfaction of his teachers," and that, moreover, questions on the subject are from time to time put to candidates by the examiners of the College. Upon the recommendation of the Board of Examiners in dental surgery it has been determined to also require that candidates for the Licence in Dental Surgery of the College shall be instructed in the administration of anæsthetics, and all candidates for the Licence who enter at a recognised dental hospital or school are now required to produced a certificate "of having attended at a recognised dental hospital and school a course of practical instruction in the administration of such anæsthetics as are in common use in dental surgery."

With reference to the admission of women to the examinations for the College diplomas the Council state that in accordance with the requirements of the Charter of 1843 the new by-law in reference thereto has been submitted to the Secretary of State for Home Affairs for sanction and ratification.

The conditions of the transfer of the museum of the Odontological Section of the Royal Society of Medicine, which has been offered to, and accepted by, the College as a trust, are published in the report. The transference of this important collection represents one of the largest and most valuable additions ever made to the museum of the College. The collection contains about 5000 specimens arranged in 13 mahogany cases. At the present time the College collection of odontological specimens, many of them being those used by Hunter in the preparation of his monograph on the teeth, are shown in several sections of the museum. It is proposed that these should be brought together and added to the collection now entrusted to the College, the whole to be arranged in a commodious and accessible room in the basement of the museum, to be known as the "Odontological Room." The addition of this collection, although it will entail a considerable expenditure of both money and labour, will place the museum in possession of one of the most valuable odontological collections in the world.

With regard to the work in the museum for the past year the chief place must be given to the alterations which have been and are being effected in the system of cataloguing and labelling its contents. After a prolonged inquiry the Museum Committee recommended the adoption of a card form of catalogue, which is considered to have many advantages over the book form at present in use. It is estimated that the new system of cataloguing will involve the preparation of 250,000 cards. Four cabinets have been designed to contain the cards and have been placed in the entrance hall of the museum. The total number of visitors to the museum for the year was 12,862, a slight increase in the number for the previous years. Special arrangements were made for the reception of two large parties of French physicians, whilst several scientists from abroad have visited the museum for the purpose of research. Altogether 138 men have visited the museum in connexion with scientific inquiries which are being carried out by them. On Saturday afternoons the museum was kept open on 23 occasions for 82 classes, 17 of which (305 students) were connected with evening science and art centres of the London County Council. The remaining 65 classes were composed of ambulance and polytechnic students (1182 in number), and were conducted round the museum by their teachers, many of whom are medical men. A series of 12 demonstrations explanatory of the contents of the museum were given during the year by the conservator and the pathological curator. The demonstrations were well attended and have been the means of extending and improving the various sections of the museum on which they were given. During the past year the supply of books and journals has been well kept up, and many valuable donations have been made to the library. In addition to these donations five interesting Hunterian papers, including Clift's own account of his apprenticeship to Hunter, MS. and other biographical data, and the MS. of Mrs. Ann Hunter's proposed Epitaph on Hunter have been presented.

The purchase of the Examination Hall by the Institution of Electrical Engineers has been completed, and arrangements have been made whereby the examinations of the Royal Colleges of Physicians and Surgeons will continue to be conducted at the Examination Hall for some time, sufficient accommodation having been leased from the institution for three years from June 1st last, with option of renewal on a yearly tenancy. A site for a new examination hall has been acquired in Queen-square, Bloomsbury, comprising four houses, the freeholds and leaseholds of which the Royal Colleges have agreed to purchase for £23,000. A sum of £24,512 was realised by the College from the sale of the Examination Hall buildings and lease. The original cost to the College of the buildings amounted to £30,251, and when from this has been deducted £1736, the share of the sinking fund transferred to the College, the loss on the original cost only amounts to £4000. This is considered a satisfactory price as allowance must be made for depreciation of the buildings during some 22 years.

Regarding the finances of the College the income for the past year amounts to £25,401, an increase of £427 on that of the previous year. There is an increase of £109 in the receipts from the Conjoint Examining Board in respect of the Membership, and of £70 in respect of the Diploma in Public Health, as regards the share apportioned to the College. There is also an increase of £149 in the Fellowship fees and of £165 in the fees for the Licence in Dental Surgery. The expenditure amounts to £23,076, an increase of £1895 on the previous year. In the cost of the examinations there are small increases, whilst an increase of £171 is also shown in the general working expenses of the College. The most noticeable increase, however, occurs under the special expenses of the museum. The special expenses of the library show little variation. The total number of diplomas issued by the College during the year show a slight increase, and is made up as follows: Membership, 356; Fellowship, 66; Licence in Dental Surgery, 81; and the Diploma in Public Health, 30.

An appendix attached to the report contains the returns of the results of the several examinations, a statement of the receipts and expenditure of the College, and the names of 22 Fellows, 271 Members, and 7 Dental Licentiates whose deaths have been reported during the year.

A SOMERSET CENTENARIAN.—Miss Hensley of Bath celebrated the 104th anniversary of her birthday on Oct. 16th, and received a congratulatory telegram from the King.

THE CRIPPLES' HOME AND COLLEGE, ALTON.

ON Oct. 16th Sir William Treloar entertained a large party of friends and subscribers at the Lord Mayor Treloar's Cripples' Home and Hospital which he has founded at Alton in Hampshire, where it occupies the buildings originally erected as the Princess Louise Military Hospital. Between 200 and 300 people attended in spite of rain, the gathering including several members of the honorary medical staff. A special train was run from Waterloo, and upon arrival the visitors were conducted round the carpenters', leather-bag making, and tailoring workshops, the power-house, laundry, chapel, and college. The buildings, which are situated in an estate of some 70 acres in a pleasant part of Hampshire, were seen to consist of wooden pavilions on brick piles, most of the wards being linked up by covered corridors. Luncheon was served in the gymnasium, and Sir William Treloar, in giving an account of the work, told his audience that there were 60 cripples learning trades in the college, and 200 cases of active bone tuberculosis in children under 12 years of age undergoing treatment in the hospital. Speeches in support of the work of the institution were also made by Sir Melvill Beachcroft, Sir Edward Clarke, and Sir Ernest Flower, and then the guests were conducted round the wards by Mr. H. J. Gauvain, the medical superintendent, who was responsible for the original arrangements of the hospital wards, and has charge of their administration. Our representative, who is indebted to Mr. Gauvain for supplying many of the following details of the work of the Alton Hospital and Home, was given an opportunity of seeing some of the admirable results which have been obtained there by careful and efficient splinting and the subsequent use of a plaster jacket.

It has long been recognised by English surgeons that treatment of children suffering from tubercular bone lesions in the out-patient department of our hospitals is terribly unsatisfactory. The beds of most general hospitals are in so great demand that usually they are not available for the necessarily prolonged treatment required to ensure a cure, and consequently are, as a rule, only open to the admission of these children when urgent symptoms render radical treatment imperative. The Cripples' Home and Hospital has been designed to remedy this defect. It is essentially an institution for active treatment and not simply an asylum. Children admitted to the Home are detained as long as they can be benefited by treatment, which means in the great majority of cases until they are apparently cured. It is particularly gratifying to record that not only has the need of such an institution been recognised, but its existence is fully appreciated by the medical profession. No patient is admitted unless his application form for admission has been signed by a surgeon of a hospital and approved by the Alton medical board. This medical board, the members of which were nominated by the Presidents of the Royal College of Physicians of London and the Royal College of Surgeons of England, is under the chairmanship of Mr. John H. Morgan, C.V.O., and is composed of physicians and surgeons selected from the visiting staffs of leading London hospitals. One or more of the members of this board visit the institution periodically to inspect the Home and to advise the medical superintendent in the treatment of cases, and the board meets monthly in London to consider his report and to assist in every way in its power.

All patients on admission are kept in quarantine for a fortnight in a separate glass cubicle in one of the observation wards. The clothes in which the patients come to the Home are at once sterilised, and every possible precaution is taken to prevent the introduction or spread of infectious disease. During the time the child is in quarantine his case is carefully investigated, notes are written, his tastes studied, his diet regulated, and such splints and appliances as are requisite are made. During this period he is also gradually acclimatised and taught to withstand the rigors of an open-air life. Very great stress is laid upon adequate mechanical treatment. Everything possible is done to prevent deformity, and where that already exists to prevent its increase. The value of efficient mechanical treatment is especially shown in many of the spinal cases under treatment at Alton. The splints are made at a trifling cost by the carpenter under the supervision of the medical superintendent who adapts them to each case individually. Great attention is paid to diet. The appetites of tuberculous children are notoriously capricious, and every endeavour is made to improve their powers of digestion and assimilation. This trouble is amply repaid by the obvious improvement effected in their general health by good food combined with open air. Drugs are employed where indicated, but occupy only a subsidiary part in the treatment. Vaccine therapy has not been neglected. There exists at this Home an excellent field for careful research in the use of tuberculin and vaccines generally, and it is much to be hoped that funds will be forthcoming to equip a laboratory and provide an efficient clinical pathologist.

Bier's hyperæmic treatment is also employed in suitable cases, but in the medical superintendent's experience the most valuable curative agent is proper mechanical treatment under the best hygienic conditions. Mr. Gauvain treats nearly all tuberculous abscesses by aspiration under strict aseptic precautions and finds the results much better than those of operation, which so often ends in sinus formation and septic infection. No operation, except in cases of emergency, is performed at the Home without the surgeon who sent the case being notified and being given the opportunity of having the patient returned to him or coming to the Home to operate himself if he prefers. We are not surprised to learn that the surgeon almost invariably prefers the operation to be performed in the Home.

Every endeavour is made to reproduce the conditions of home life rather than the atmosphere of a formal institution. Whilst no rudeness or lack of reasonable discipline is tolerated, yet every child is made to consider that he or she is a member of a very happy family. During the summer those who are capable of being benefited attend the forest open-air school, which is designed on the lines of the forest school at Charlottenburg. Here they work under ideal conditions. But work is a secondary desideratum, the cure of the child being the first aim, and there are no rigid rules for compulsory attendance. In the winter the children are taught in the winter schoolroom or in the wards. Under these carefully thought out conditions it is not surprising that the progress of the children has been good. In some 300 children who have been under treatment two deaths only have occurred, and both have been due to tuberculous meningitis.

The College is designed for a different purpose altogether. Here boys, whose ages range from 14 to 18 years, crippled from any condition whatever, but nevertheless capable of being taught a trade, are admitted for treatment and training. They include lads who have lost one or both legs as a result of accident or disease, sufferers from club-foot, scoliosis, infantile paralysis, old but quiescent tuberculous disease, &c. The primary object here is the training of the youth under medical supervision in healthy surroundings where also a good moral tone can be ensured. The trade which the boy shall adopt is decided in consultation with the college master. Boys who would be especially benefited by an open-air life learn poultry-farming or horticulture. Other lads are taught leather-working, cobbling, or tailoring under skilled instructors. The majority work in the leather shop, as this trade has been found best adapted for their condition, and it is anticipated that on leaving the college little difficulty will be experienced by them in earning their livelihood. A possible extension of this work will be the establishment of a self-supporting labour colony later. During his period of training the general health of the cripple is improved by every possible means, and where feasible endeavours are made to correct or reduce existing deformity by operative or other measures. All lads capable of benefiting by it are drilled, and their drills are performed with extraordinary zest and smartness. Lads suffering from scoliosis and other conditions are instructed in special exercises designed to lessen their deformity, and the supervision maintained enables the exercises to be systematically performed with obviously beneficial results. The boys are encouraged in games but have plenty of other occupations, as they do their own domestic work, mend their own clothes and boots, and keep their quarters thoroughly clean.

SCARLET FEVER AND MILK IN THE THAMES VALLEY.

THE public health committee of the London County Council has issued a further report with reference to an outbreak of scarlet fever which occurred last June amongst over 400 people in London and Surrey who had consumed milk from a particular company. The matter was referred to in our columns at the time.[1]

A joint inquiry into the circumstances of the outbreak was undertaken by Dr. W. H. Hamer and Dr. T. Henry Jones, who had the help of Dr. Mervyn H. Gordon as bacteriologist. Assistance was also rendered by the medical officers of the affected districts and by the officers of the milk company. Sir Shirley Murphy, medical officer to the London County Council, commenting on this investigation, states that no reasonable doubt can be entertained that the milk of a particular farm was responsible for the occurrences of the scarlet fever in the two counties, and interest centres in the question how this particular milk acquired the ability to infect those who consumed it. In the past two hypotheses of milk infection have been discussed, the one that the milk acquired its infective property from a human source, that it was, in fact, infected by the milker or by some other person suffering from scarlet fever; the other, that milk was infected by some condition of a cow or cows. It has been observed on former occasions that inquiry has failed to demonstrate that human agency has been responsible for the infective condition of the milk; such inquiry has often shown that even when one or more persons engaged on the farm have suffered from scarlet fever the dates of their infection have been subsequent to the dates of infection of the consumers of the milk—in fact, that the milkers suffered, as other persons, from consumption of the milk. So in the outbreak investigated by Dr. Hamer and Dr. Jones it was found that scarlet fever did occur in the family of a milker, but that the evidence in connexion with this occurrence could not be regarded as affording explanation of the infection of the milk by human agency, while it distinctly suggested that the milk was infective before leaving the farm. Careful inquiry in the neighbourhood of the farm failed to yield any evidence of the existence of a human source of infection of the milk.

Sir Shirley Murphy points out that in similar circumstances Sir William Power, when investigating in 1882 an outbreak of scarlet fever in certain London districts, made the suggestion that inasmuch as "there is one sort of relation between scarlatina and accidents of the puerperal state another sort of relation becomes comparatively easy of belief," in fact, that "if scarlatina in man have other animal source than human source, it may be that one such source is the cow that has recently calved, a cow either not at all ill (except for her parturition) or not so obviously ill as to prevent her milk being used for human consumption." The suggestion thus tentatively made in 1882 assumed large importance upon the demonstration by Sir William Power in 1885 of the bovine origin of scarlet fever occurring in persons consuming milk from a Hendon farm, the cows at which were affected with an eruption of the teats and udder. A similar development of scarlet fever in man, associated with the consumption of the milk of similarly affected newly calved cows, or cows infected from such newly calved cows, has been observed in a number of instances since that date. In London in 1892 and again in 1894 and 1902, considerable prevalences of scarlet fever due to infected milk were strongly suspected to have been of bovine origin. In the present instance a like possibility was naturally entertained, and it has been found possible by study of the farm operations in minute detail to show that just at the time when the milk first began to show infectious property, there was added to it the milk of three recently calved cows, the calf of one of which had died after being suckled by the cow for four or five days. These circumstances, together with the fact that the three cows mentioned and other cows at the farm showed at the time of the inquiry appearances upon their teats and udders suggestive of "Hendon disease," render it probable that a morbid condition of the cow was responsible for the subsequent human illness.

[1] THE LANCET, July 3rd, p. 56.

Sir Shirley Murphy remarks, in conclusion, that from the administrative side it deserves to be noted how, with the cordial assistance of the manager and secretary of the company, whose action deserves recognition, early localisation of the source of the mischief was possible. This was due to the system of record of distribution of milk maintained by the company, a system which had proved in this case to be of value alike to the public and the company.

At the meeting of the council it was decided to place the detailed account of the investigations on sale, but not before Mr. Easton had objected to the responsibility for the outbreak being fixed on the cow. He said it had been decided by the highest bacteriological authorities that scarlet fever was incapable of transmission from a cow to an infant, and inquired if the possibility of infection having been derived from railway trucks had been looked into. In his view it would create needless alarm if the report was published, and he moved the reference back.

The proposal found no seconder, and therefore fell through.

MEDICINE AND THE LAW.

Unqualified Dentistry and the Public.

THE recent trial in which Mr. G. H. Hawthorne, a baker at Cricklewood, sued the London Hygienic Institute, Oxford-street, for personal injuries caused by the negligent extraction of 22 of his teeth illustrates most of the evils arising out of that unqualified practice of medicine and dentistry which the law permits, and it might serve as a warning to all foolish and credulous persons if they were capable of assimilating and applying its lessons. This class of persons, however, appears to be inexhaustible alike in numbers and in credulity, and the example of Mr. Hawthorne and his teeth will probably pass unnoticed or will soon be forgotten. The victim in this case did not consult the defendants upon his own initiative, but was called upon by one of their canvassers, from which it will be easy to observe the business advantages enjoyed by the unqualified person over those whom the ethics of an honourable profession do not permit to employ agents and canvassers. The arrangement was made with the canvasser that Mr. Hawthorne should have his teeth attended to for £3 15*s.*, paid in weekly instalments of 7*s.* 6*d.*, and one payment was made before he went for the first time to the institute. Once there his business was quickly disposed of by an operator, who afterwards admitted in the witness-box that he had no medical or dental qualifications. This gentleman began by pulling out four or five teeth, when he was remonstrated with by the patient, but he proceeded with his task and ended by extracting 22 teeth at a single sitting. Apparently an anæsthetic containing 1 per cent. of hydrochloride of cocaine was used, but the plaintiff denied that it effectively prevented him from feeling what was being done to him, and he declared that he screamed with pain. There was some denial of this on the part of the defence, but there was no doubt that after washing his mouth out with whisky at a public-house, on the advice of the operator, he went home, and that there, owing to faintness and hæmorrhage, he had to call in a medical man, while afterwards a qualified dentist attended him and removed 14 stumps which had been left behind in his jaws. Those who are inclined to visit such places as the Hygienic Institute will observe that not only did Mr. Hawthorne suffer considerable physical pain and inconvenience, but that he had to pay medical and dental fees necessitated by the treatment he had received amounting to nearly £10, and that he estimated his further loss in wages at £8 10*s.* They may also reflect that the medical witness who attended Mr. Hawthorne when he returned from the institute deposed that his condition was such that, without medical attention, death might well have been expected to supervene. We need not discuss the evidence in detail, and we can leave such testimony as was laid before the jury on behalf of the defendants for the consideration of those who care to study it. They are not likely, whoever they may be, to blame the jury for disregarding it, and for finding a verdict for the plaintiff. Mr. Hawthorne, therefore, was nominally successful, and for the time being the London Hygienic Institute will suffer, but the damages were assessed at no more than £50. Mr. Hawthorne seems, therefore, to have endured pain, to have

suffered anxiety and pecuniary loss, even to have had his life endangered, only to be laughed at in court and to be consoled with a sum of money which cannot have left any appreciable surplus after the payment of his necessary expenses in the action. With regard to the law Mr. Justice Bray, who certainly did not err on the side of sympathy with the plaintiff, ruled that the agreement to extract the teeth did not imply any contract to employ for the purpose a qualified person in the sense that he should have a legal qualification for the practice of dentistry. In summing up he defined the contract entered into as one to use due care and skill in selecting what teeth were to be extracted and in extracting them, and to decide how many were to be extracted at a time; not to put the patient to unnecessary suffering, and to do properly what had to be done. The obligation was not to provide a registered dentist, but one of sufficient skill. In all this Mr. Justice Bray may be, and probably is, from a legal point of view, perfectly right. The patient in such a case is at the mercy of those who need only select to operate upon him a person of "sufficient skill." What constitutes "sufficient skill" in such a connexion is to be decided by a jury afterwards in those cases in which patients complain of ill-usage. In those in which patients do not complain we are asked to assume that there has been "sufficient skill," although it may be merely the brute force of a man who is strong enough to pull out as many teeth as his patient is willing to part with, and who manages to do so without any immediate result of an obviously serious character. Medical practitioners and dentists are popularly supposed to advocate the suppression of unqualified practice from a desire to protect their own profits from the intrusion of dangerous rivals. The case under discussion, however, hardly points that way. It is an instance, among many, of the unqualified person providing lucrative work for the qualified in repairing the damage done by ignorance. It was the Cricklewood baker alone who suffered physically and pecuniarily, and it is for members of the public such as he and not for medical men or dentists that greater protection than the law now affords is urgently needed upon public grounds and not in the interest of any profession.

Public Health.

ANNUAL REPORTS OF MEDICAL OFFICERS OF HEALTH.

City of Bristol.—The population of this city is now estimated at 372,785, no insignificant portion of the recent increase having been brought about by means of borough extensions. Dr. D. S. Davies furnishes in his current report some figures showing the differences in the fatality-rate of scarlet fever to-day as compared with 40 years ago. In 1863 and 1864 no fewer than 1100 deaths from scarlet fever occurred. In 1869 and 1870 there were over 900 deaths; in 1875 and 1876 over 700, and in 1880 and 1881 nearly 400, while in 1886 and 1887 there were 300 deaths. The next epidemic was in 1896, with 59 deaths, and in 1900 there was a larger epidemic, with 39 deaths, followed in 1901 with a still larger epidemic, yielding only 36 deaths. In 1902 the deaths rose to 66. Dr. Davies points out that if in 1908 there had been a similar loss in regard to population as there was in the year 1863 there would have been 2000 deaths instead of only 10. It is very difficult, as he observes, to explain satisfactorily this change of type which has characterised scarlet fever within recent years. In all probability part of it may be due to the removal to the isolation hospitals of cases which, by being overcrowded at home, might have added to them a septic element which would increase the fatality-rate of the disease. But there is also the consideration that there is evidence pointing to the fact that the mild type of scarlet fever which now prevails is a common feature in all countries, whether or not they are provided with isolation hospitals. Dr. Davies, in discussing the behaviour of enteric fever in Bristol, makes some very instructive observations upon "carrier" cases of this disease and, *inter alia*, he furnishes the later history of the well-known Brentry woman who had apparently been the cause of numerous cases of enteric fever since her own attack in 1901, and who, in the spring of 1908, seems to have infected herself. Subsequent to this she was regarded as having infected three other persons. In a second instance of an enteric fever "carrier" the woman, who contracted a slight attack of enteric fever in the autumn of 1907, apparently gave the disease to four of her five children in June, 1908, although she was at that time in excellent health. These cases led to an investigation into the whole subject of "carrier" cases by Dr. Davies and Professor I. Walker Hall, who have presented an interim report to the town council on the subject, which, to a large extent, was summarised in our columns on Nov. 28th, 1908. Dr. Davies also embodies in the report before us the history of the Devizes "carrier" case, in which a woman who suffered from a severe attack of enteric fever in July, 1905, caused cases of the disease in September and December, 1905, in July, 1907, and in July, September, and December, 1908. The Winsley Sanatorium for pulmonary tuberculosis is largely supported by the town council of Bristol, which contributes £1400 annually for the maintenance of 20 beds, and which has a capital interest in the institution to the extent of £6000. The following figures show the after-history of the patients discharged from the sanatorium. Of 45 discharged in 1905 there were, on Dec. 31st, 1908, 21 dead and 5 whose whereabouts were unknown, while of 67 discharged in 1906, 29 were dead on that date.

City of Nottingham.—Dr. Philip Boobbyer, in presenting his twentieth annual report, estimates the population of the city at 260,449 for 1908, while the birth-rate per 1000 for the same year was 26·6, and the death-rate 15·2. The infantile mortality was 145 per 1000 births. He deplores the decline of vaccination in Nottingham, and he points out that the present vaccination law has swelled the ranks of abstainers from vaccination, and as this was not the end which it was intended to serve, it is difficult to justify its continued existence. Diphtheria antitoxin is now not only given to the patients admitted to the isolation hospital, but it is distributed gratuitously to medical men in attendance upon poor patients on application. But, notwithstanding this liberal arrangement, a considerable number of patients are yearly brought to notice to whom, although the disease was early recognised, antitoxin has either not been administered, or, if administered, this has been done too late to obtain any real benefit. This is a very serious condition of affairs, and one which cannot be allowed to continue indefinitely. It will therefore be well for the medical practitioners who are thus tardy in administering antitoxin to consider their position. The death-rate from enteric fever in Nottingham is still unduly high, and Dr. Boobbyer ascribes its maintenance to the practically undiminished continuance of the conservancy system of excrement disposal, and in this connexion he makes an instructive comparison with certain other towns. He states that in the "seventies" the enteric fever death-rate in Nottingham was rather below the mean rate of the other large cities taken together—i.e., the Nottingham death-rate was then about 45 per 100,000, as compared with 48 per 100,000 in the other great towns. But although from the "seventies" onwards the enteric fever death-rates of the great towns had fallen to 20 per 100,000 at the end of the last century, the death-rate of Nottingham had only fallen to 29—i.e., the mortality was 45 per cent. more in Nottingham than in the large towns as a whole. During the decade ended 1907 the average enteric fever death-rate in Nottingham was 24 per 100,000, as compared with 10 in the great towns, and during 1908 the Nottingham death-rate (11 per 100,000) was still 36 per cent. above that in the great towns. Dr. Boobbyer then contrasts Nottingham with Leicester, where the water-carriage system has been substituted for the conservancy system, and he shows that *pari passu* with this conversion in Leicester the enteric fever death-rate has steadily declined as well as the death-rate from diarrhœa, and he contends that this decline cannot be due to regulation of the shell-fish trade, since the supply of Nottingham and Leicester is identical. In passing, it is of interest to take note of the fact that in 1908 no less than 78 per cent. of the recognised cases of enteric fever were sent to hospital, and in connexion with the practice adopted at the Nottingham Isolation Hospital it may be pointed out that open-air treatment is still employed as far as possible for all cases of acute specific diseases. Dr. Boobbyer adds

that although this practice is undoubtedly advantageous in practically all such cases, its advantage is most apparent in a disease such as scarlet fever in which septic complications are liable to prevail; and as regards these cases the open corridors between the ward blocks are used in rough weather, but whenever weather permits the patients are nursed in the open, the beds being placed on the paths or grass immediately outside the ward blocks. But the labour involved in thus moving beds is considerable, and Dr. Boobbyer suggests that as the open-air treatment for the diseases dealt with in the isolation hospital has passed beyond the experimental stage it would be well if verandahs were built along one side of each ward block, such verandahs communicating with the interior of the wards by doors formed by prolonging the existing windows to the floor level.

City of Cork.—Mr. Denis D. Donovan tells us in his current annual report that at one time typhus fever was rife in Cork, there having in 1881 been 1406 cases with 88 deaths. In the decade 1879–1888 there were 4863 cases, in 1889–1898 547 cases, and in 1899 to 1908 122 cases. This gratifying decline the medical officer of health attributes in great measure to the provision by the corporation of about 550 working-class dwellings, as well as to the reduction of overcrowding, the removal of the families of the patients to the reception house, and the isolation of the patients themselves. It would be helpful if Mr. Donovan would in a subsequent report furnish the date of the first use of the reception house and of the isolation hospital, as well as of the number of persons removed annually to each, as such a statement might be of considerable value. There were 88 cases of enteric fever with 16 deaths in Cork during 1908, and it does not seem at all clear as to what they were to be attributed. But in addition to these 88 cases of enteric fever there were, we discover a little later in the report, as many as 55 cases of "simple continued fever" which the medical officer of health regards as somewhat akin to typhus fever and as dependent upon the same conditions. The two conditions, typhus fever and continued fever, are, he adds, frequently met with in the same house. It is not clear from the report how far these cases of continued fever are isolated. The city of Cork has, the report states, the highest death-rate from pulmonary tuberculosis of any town in Great Britain and Ireland, the death-rate for 1908 being 3·22 per 1000. Cork still takes its water-supply from the river Lee, which is a polluted river, and although the degree of pollution has been reduced of late the medical officer of health is obviously far from satisfied with the filtration which the river water receives. As he rightly observes, a river supply such as that in question should be filtered by means of "properly constructed filter beds."

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 7852 births and 3845 deaths were registered during the week ending Oct. 16th. The annual rate of mortality in these towns, which had been equal to 12·3, and 12·9 per 1000 in the two preceding weeks, declined again to 12·2 in the week under notice and was lower than in any week since the end of August; in London the rate last week did not exceed 12·0 per 1000. The lowest annual rates of mortality recorded in the 76 towns last week were 6·0 in Hornsey, 6·7 in Handsworth, 6·8 in Willesden, and 7·1 in Croydon; the rates in the other towns ranged upwards, to 17·5 in Liverpool, 17·8 in Grimsby, 18·6 in Merthyr Tydfil, and 18·9 in Oldham. The 3845 deaths in the 76 towns last week showed a decline of 221 from the number returned in the previous week, and included 387 which were referred to the principal epidemic diseases, against numbers declining steadily from 849 to 402 in the seven preceding weeks; of these 387 deaths, 208 resulted from diarrhœa, 51 from diphtheria, 40 from measles, 34 from scarlet fever, 27 from whooping-cough, and 27 from "fever" (principally enteric), but not one from small-pox. The 387 deaths from these epidemic diseases last week were equal to an annual rate of 1·2 per 1000, against rates declining in the seven preceding weeks from 2·7 to 1·3. No death from any of these epidemic diseases was registered last week in Leyton, Norwich, Halifax, Hornsey, or in five other smaller towns; the annual death-rates therefrom ranged upwards, however, to 4·3 in Grimsby, 4·6 in Rhondda, 5·9 in Great Yarmouth, and 6·1 in Hanley. The deaths attributed to diarrhœa in the 76 towns, which had declined in the seven preceding weeks from 676 to 230, further fell last week to 208, but caused annual death-rates ranging upwards in the several towns to 2·0 in Middlesbrough, 2·1 in Grimsby, 2·2 in South Shields, and 3·9 in Great Yarmouth. The fatal cases of diphtheria, which had been 43 and 28 in the two preceding weeks, rose last week to 51, and exceeded the number returned in any week since the middle of August; they included 14 in London and its suburban districts, 5 in Liverpool, 5 in Manchester and Salford, 4 in Hanley, and 3 in Hull. The deaths from measles, which had been 17 and 30 in the two previous weeks, further rose last week to 40, including 4 in Manchester and Salford, 4 in Rhondda, 4 in Newcastle-on-Tyne, and 3 in Bristol. The 34 deaths from scarlet fever were fewer by 6 than the number in the previous week; 13 occurred in London and West Ham, 5 in Liverpool, 4 in Manchester and Salford, and 3 in Birmingham and King's Norton. The 27 fatal cases of whooping-cough showed a marked decline, and were fewer than in any previous week of the year, but showed a proportional excess in Great Yarmouth. The deaths referred to "fever," which had been 17, 21, and 24 in the three preceding weeks, further rose last week to 27; they included 8 in London and West Ham, and 2 both in Portsmouth and in Grimsby. The number of scarlet fever patients under treatment in the Metropolitan Asylums and London Fever Hospitals, which had steadily increased in the seven preceding weeks from 2347 to 2745, had further risen to 2810 on Saturday last; 371 new cases of this disease were admitted to these hospitals during last week, against 438, 373, and 324 in the three preceding weeks. Two cases of small-pox were admitted to the Metropolitan Asylums Hospitals during last week. Of the 1114 deaths registered in London last week, 167 were referred to pneumonia and other diseases of the respiratory system, against 132 and 186 in the two preceding weeks, and were 16 below the corrected average number in the corresponding week of the five years 1904–08. The causes of 27, or 0·7 per cent., of the deaths registered in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death registered during last week were duly certified in London, Bristol, West Ham, Sheffield, Newcastle-on-Tyne, Hull, Nottingham, Leicester, and in 52 other smaller towns; the 27 uncertified causes of death in the 76 towns last week included 6 in Birmingham, 3 in Liverpool and in Manchester, and 2 in St. Helens and in Gateshead.

HEALTH OF SCOTCH TOWNS.

In eight of the principal Scotch towns 838 births and 456 deaths were registered during the week ending Oct. 16th. The annual rate of mortality in these towns, which had been equal to 13·8, 13·1, and 12·0 per 1000 in the three preceding weeks, rose again to 12·8 in the week under notice. During the 13 weeks of last quarter the annual death-rate in these Scotch towns averaged 12·8 per 1000, and exceeded by 0·7 the mean rate during the same period in the 76 large English towns. The annual death-rates last week in these Scotch towns ranged from 6·7 and 9·6 in Leith and Paisley to 13·7 in Glasgow and 15·6 in Perth. The 456 deaths from all causes in the eight towns last week showed an increase of 28 upon the number returned in the previous week, and included 45 which were referred to the principal epidemic diseases, corresponding with the number in the previous week. These 45 deaths were equal to an annual rate of 1·3 per 1000, and slightly exceeded the mean rate (1·2) from the same diseases last week in the 76 English towns. The 45 deaths from these diseases in the Scotch towns last week included 15 from diarrhœa, 12 from diphtheria, 8 from measles, 5 from scarlet fever, 4 from "fever," and 1 from whooping-cough, but not one from small-pox. The 15 deaths attributed to diarrhœa in the eight towns showed a further decline from the numbers returned in the two preceding weeks; 6 occurred in Glasgow, 3 in Dundee, and 2 both in Edinburgh and in Paisley. The 12 fatal cases of diphtheria corresponded with the number in the previous week, and included 8 in Glasgow (as in the previous week) and 2 in Edinburgh. The 8 deaths from measles, of which 7 were returned in Glasgow, showed a considerable increase

upon recent weekly numbers. The 5 fatal cases of scarlet fever included 3 in Glasgow, and all the 4 deaths referred to "fever" were returned in the same town; of the latter, 3 were certified as enteric and 1 as cerebro-spinal meningitis. The deaths referred to diseases of the respiratory system in the eight towns, which had been 66 and 59 in the two preceding weeks, further declined last week to 58, and corresponded with the number in the corresponding week of last year. The causes of 14, or 3·1 per cent., of the deaths in the eight towns last week were not certified or not stated; in the 76 English towns the proportion of uncertified causes of death last week did not exceed 0·7 per cent.

HEALTH OF IRISH TOWNS.

In 22 town districts of Ireland, having an estimated population of rather more than a million, 597 births and 334 deaths were registered during the week ending Oct. 16th. The annual rate of mortality in these towns, which had been equal to 16·9, 16·2, and 15·1 per 1000 in the three preceding weeks, rose slightly to 15·2 in the week under notice. During the 13 weeks of last quarter the annual death-rate in these Irish towns averaged 15·8 per 1000, whereas during the same period the mean death-rate did not exceed 11·9 in the 76 largest English towns and 12·6 in the eight principal Scotch towns. The annual death-rate during last week was equal to 16·0 in Dublin (against 17·5 and 16·8 in the two preceding weeks), 14·0 in Belfast, 21·2 in Cork, and 23·2 in Limerick; while the mean rate in the 16 smallest Irish towns did not exceed 12·3 per 1000. The 334 deaths from all causes in the 22 town districts last week showed an increase of but 4 upon the declining numbers in recent weeks, and included 29 which were referred to the principal epidemic diseases, against 42 and 37 in the two preceding weeks; these 29 deaths were equal to an annual rate of 1·3 per 1000, corresponding with the rate from the same diseases last week in the Scotch towns, and slightly exceeding that in the 76 English towns. The 29 deaths from these epidemic diseases in the 22 Irish towns last week included 14 from diarrhœa, 6 from "fever" (enteric), 6 from whooping-cough, 2 from diphtheria, and 1 from scarlet fever, but not one either from measles or small-pox. The 14 fatal cases of diarrhœa showed a further decline of 8 from the numbers in recent weeks, and included 4 in Dublin, 5 in Belfast, and 4 in Cork. Of the 6 deaths from enteric fever, 3 occurred in Belfast, and 1 each in Dublin, Drogheda, and Newry. The 6 fatal cases of whooping-cough included 3 in Limerick and 2 in Belfast. The 2 deaths from diphtheria occurred in Dublin and Lurgan. The 50 deaths referred to pneumonia and other diseases of the respiratory system last week in the 22 towns corresponded with the number in the previous week. The causes of 13, or 3·9 per cent., of the deaths in the 22 towns last week were not certified by a registered medical practitioner or by a coroner; in the 76 English towns the proportion of uncertified causes of death last week did not exceed 0·7 per cent., but was equal to 3·1 per cent. in the eight Scotch towns.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

IN accordance with the provisions of His Majesty's Order in Council of August 11th, 1903:—Surgeon Fernand Louis Joseph Marie de Verteuil has been allowed to withdraw from the Royal Navy with a gratuity.

The following appointments are notified:—Fleet-Surgeons: G. Ley to the *Niobe*, for voyage out, and to the *Kent*, on recommissioning; F. A. Brice to the *Ariadne;* W. Bett to the *Sutlej*, on recommissioning; and E. Sutton to the *Niobe*, for voyage home. Surgeons: J. Glaister to the *Niobe*, for voyage out, and to the *Kent*, on recommissioning; and C. J. O'Connell to the *Sutlej*, on recommissioning.

ROYAL ARMY MEDICAL CORPS.

Captain M. F. Foulds, from Chatham, has been appointed Specialist in Operative Surgery in the Belfast District, vice Captain G. J. S. Archer. Major F. W. Hardy, Sanitary Officer, Southern Command, has been transferred to the Eastern Command for duty, vice Captain R. T. Brown. Captain F. P. Lauder has been appointed to the medical charge of the officers and their families, and the women and children, Marlborough Lines, Aldershot, vice Major J. Poe. Captain C. H. Straton has been appointed Specialist Sanitary Officer, Eastern Command, vice Lieutenant-Colonel J. V. Salvage.

SPECIAL RESERVE OF OFFICERS.

Royal Army Medical Corps.

Supplementary List: Lieutenant R. Magill is confirmed in that rank.

TERRITORIAL FORCE.

Royal Army Medical Corps.

1st Highland Field Ambulance: Lieutenant Peter Howie to be Captain (dated Sept. 14th, 1909).

2nd Scottish General Hospital: Captain John Dixon Comrie, from 3rd Lowland Field Ambulance, Royal Army Medical Corps, to be Major (dated July 22nd, 1909).

Attached to Units other than Medical Units.—Captain William Roxburgh to be Major (dated Jan. 18th, 1909).

THE WEST AFRICAN MEDICAL STAFF.

In accordance with the recommendations of the recent Departmental Committee on the West African Medical Staff, the Secretary of State for the Colonies has appointed the following gentlemen to be an Advisory Committee on medical and sanitary questions connected with the British colonies and protectorates in Tropical Africa:—Mr. H. J. Read, of the Colonial Office (chairman); Sir Patrick Manson, senior lecturer, London School of Tropical Medicine; Sir Rubert Boyce, Dean of the Liverpool School of Tropical Medicine; Mr. C. Strachey, of the Colonial Office; Dr. W. T. Prout, late Principal Medical Officer, Sierra Leone; Dr. Theodore Thomson, of the Local Government Board; Dr. W. J. Simpson, Professor of Hygiene, King's College, London; and Dr. J. K. Fowler, late Dean of the Faculty of Medicine, University of London. Mr. A. Fiddian, of the Colonial Office, will act as secretary to the Committee.

Correspondence.

"Audi alteram partem."

THE TREATMENT OF ADDER BITES.

To the Editor of THE LANCET.

SIR,—A note in THE LANCET of August 21st on this subject tempts me to send you a short account of a case which I recently attended. About 4.30 P.M. on Sept. 11th a boy, aged 14 years, was brought to my surgery by his mother, who said that he had been bitten on both hands by a viper which was produced for inspection. This must have happened as far as I can judge rather less than half an hour before I saw him. He was suffering from considerable shock, with faintness, pale moist skin, and a tendency to vomit. There were the marks of a bite on the ulnar side of the right little finger and of another on the dorsum of the first phalanx of the left middle finger. Both hands were greatly swollen, the œdema and ecchymosis extending well up into the forearms. The condition on the left side was decidedly the more severe, that hand having almost the appearance of a small boxing glove. Nothing in the way of first-aid treatment had been done. I at once applied a Bier's elastic bandage with moderate tightness to each arm at the elbow and made free incisions in the long axis of the fingers over the bites. Free hæmorrhage followed, after which gauze dressings were applied and the patient sent home to bed, where he vomited freely three or four times. I then applied hot fomentations of Gamgee tissue soaked in permanganate of potash solution, after having soaked the limbs in baths of the same solution for half an hour. No anti-venom serum being obtainable locally I wired to Burroughs and Wellcome and obtained it by 3 A.M. next morning, and injected 25 cubic centimetres into his flank. After doing so I removed the Bier's bandages; these had been in position from the first, about 11 hours in all, but I relaxed the tension in them somewhat on settling the boy in bed the previous evening, so that he might wear them without danger or too much discomfort until the anti-venom serum arrived. The hands and forearms were much swollen, the hands boggy, and the forearms brawny and very hard up to the lower edges of the bandages, and the skin was almost uniformly

discoloured by ecchymosis. The condition of the arms above the bandages was normal. When seen at 11 A.M. the same morning the œdema of the hands was slightly less, but the brawny swelling had extended to the level of the axillary folds and the axillary glands were enlarged and extremely tender. There had been no more vomiting since the previous evening and the general condition was decidedly improved. At 5.30 P.M. he was much more comfortable, the œdema was about the same in extent but less tense, and he was taking light food well. Hot lysol fomentations were ordered for both hands. Next day his condition was good, the arms were less painful, and the swelling was perceptibly less. Antiphlogistine dressings were applied to both limbs at intervals for the next few days, the axillary glands gradually subsided, and by Sept. 21st the patient was getting about and enjoying the prospect of an extension of his schoolboy's holiday.

As to how far the injection of anti-venom serum was of use, I must leave to your readers. The serum which I used is stated to be an antidote to the poisons of cobra, daboia, rattlesnake, and krait; the poisons of the rattlesnake and the English adder are both classed as "viperine," so that beside the chance of doing good by using a serum which may protect against the venoms of snakes in general I hoped that the antidote to the rattlesnake might also protect against our English adder. At the worst it did no harm.

It seems to me that in cases of snake-bite the use of Bier's elastic bandage is clearly indicated. It is of little use to incise the area of the bite if consequent hæmorrhage is prevented by a rigid ligature or tourniquet. Further, the latter can be applied only for a very limited time without injury to the limb, and on its removal there is nothing to impede absorption of the venom into the general system. On the other hand, an elastic bandage can be so adjusted as to be applied for a period of many hours; the congestion produced by it encourages hæmorrhage after incision; and when this has stopped, the extrusion of the venom into the bath or fomentation or dressing which is applied to the wound is facilitated by the *vis a tergo* of the arterial stream and by the obstruction to the venous and lymphatic return.

I am, Sir, yours faithfully,

B. B. SAPWELL, M.B., B.C. Cantab.

Aylsham, Oct. 5th, 1909.

RECEIVING HOUSES FOR LUNATICS.

To the Editor of THE LANCET.

SIR,—The London County Council at its last meeting by a majority of one vote decided to apply for Parliamentary powers to establish *one* receiving house for lunatics, the original resolution being to provide for four such institutions. The existing practice is for all poor lunatics in the county of London to be taken to the infirmary or workhouse of the union to which they belong. In some districts the mental wards are situated in the workhouse, whilst in others they form part of the infirmary. Undoubtedly they should constitute a portion of the latter institution, which is devoted entirely to the treatment of the sick under the direct superintendence of a medical man, and except in very few instances this is the case, the exceptions being due to the fact that Poor-law affairs have for many years been in a very unsettled condition. Threats of transference of authority and of abolition have been made over and over again, and the feeling of uncertainty as to the future which these prognostications have caused has resulted in an unwillingness on the part of boards of guardians to spend any money on bricks and mortar with a possibility of the buildings being rendered unnecessary in a few years' time.

The line of practice adopted by the medical officers has been to send as few cases as possible away to the asylums. It has been found that a short detention will cure more than a half of the cases admitted. In 1902, 8076 cases of lunacy were admitted to metropolitan infirmaries and workhouses and 3920 were subsequently sent to lunatic asylums. In 1903, out of 8004 admissions, 3792 were sent away. In 1904 the figures were 7654 admissions and 3716 transfers. In 1905—and there is no later return—there were 7322 admissions and 3583 relegations to asylums. The more modern infirmaries are enabled to keep their cases longer because their fully equipped mental blocks give them more room. These naturally show a better rate of recovery. At Lewisham, for instance, which has a specially designed pavilion, our percentage of transfers to asylums has been for years about 33 per cent. The present system ensures that only confirmed cases are sent to asylums; it thus obviates the stigmatising as lunatics of from 50 to 66 per cent. of the patients, whose relatives are thus spared the pain caused by the infliction of an unnecessary blot upon the escutcheon of the family history. The infirmaries, being within reasonable distance of the friends, are easy of access for the purposes of visiting and for the necessary interviews with doctors and justices.

Printed statements published by the asylums committee assert the necessity for the patients being placed under treatment as early as possible, implying that the County Council has something better to offer than the system which is in existence. So far as actual experience in the treatment of incipient lunacy is concerned, they can advance no claim for special knowledge, as for the past 15 years they have had no such cases sent them, all having been retained for the statutory period in the infirmaries and workhouses. The crowning act of audacity on the part of this committee has been to quote a paragraph from the recent report of the Royal Commission on the Care and Control of the Feeble-Minded, written in praise of the present system as practised in London, and by judicious omission and pruning to make it appear as though the words had reference to its suggested reception houses. The paragraph in point is No. 712. In its desire for aggrandisement the asylums committee naturally has to make as good a case as possible, but this is scarcely playing the game. To my mind it is not desirable that the body responsible for the detention of lunatics should also be entrusted with their certification. Under the present system if a mistake should occur the asylum authorities would be quick enough to rectify it, but would there be an equal inducement for keenness if they were responsible for the initial stages?

I trust that Parliament will not allow the London County Council to force its hand. The whole of the Poor-law system is in the melting-pot, and it is quite possible that the County Council may not be the body chosen to remould it. Under any circumstances it should not be allowed to steal a march and to plunge the ratepayers into expense for a scheme which, after all, may not be even an intelligent anticipation.—I am, Sir, yours faithfully,

F. S. TOOGOOD, M.D. Lond.,

Medical Superintendent, Lewisham Infirmary; Lecturer upon Lunacy Law to the School of Sociology.

Lewisham, Oct. 18th, 1909.

THE BENHAM TOP.

To the Editor of THE LANCET.

SIR,—Dr. F. W. Edridge-Green's explanation in THE LANCET of Oct. 16th does not quite answer my question in the previous issue. As the black lines correspond to a portion of the retina which has not been stimulated, so also must the black half of the disc of which, as he says, they are a continuation. The question therefore remains why one should give an after-image of green and the other of red. It seems curious to speak of the "after-image" of an object that has not stimulated the retina at all, but apart from that difficulty the problem unsolved is, Why should the black mass produce an effect of green and its continuation one of red?

I am, Sir, yours faithfully,

Colchester, Oct. 18th, 1909. CHARLES E. BENHAM.

IS SNOW-WATER UNWHOLESOME?

To the Editor of THE LANCET.

SIR,—A peculiar interest is attached to Dr. G. A. Atkinson's statement that he and "dozens of men" can drink large quantities of snow-water without harm, for not only does it enter into conflict with the admitted testimony of experienced guides but it would also appear to be a direct negation of well-established theoretical principles.

In looking into the question as to whether a particular water is fit to drink it is useless to rely upon an ordinary chemical analysis which merely expresses the percentage of salts, because it disregards the fundamental fact that in consequence of solution in water these salts break up into a larger number of molecules than is indicated by their chemical formulæ—i.e., undergo ionisation; and it is upon the number of ions per unit volume that the physiological action of water depends. Now, the presence of electrically charged ions in a solution is the cause of electrical conductivity in that solution. Without the liberation of ions no current passes, and the two phenomena—ionisation and electrolytic

conductivity—run on parallel lines. The conductivity of a solution is, in fact, proportional to the number of dissociated molecules of matter contained therein, so that the coefficient of electrical conductivity will give us an accurate record of the extent of ionisation. Ordinary drinking water has a fairly high coefficient of conductivity, and this implies that it must contain ions in more or less quantity. On the other hand, the purest natural water, obtained from natural ice or snow, has only a conductivity of 2·13, and this figure represents the relative number of ions present.

Now, what effect can this low ionisation have upon the harmlessness or otherwise of the water as a drink? According to the kinetic theory, the molecules of all substances above the temperature of absolute zero are in a state of incessant motion. When a solution is brought into contact with a semi-permeable membrane, such as is to be found in animal tissue, the water can freely percolate through, but the molecules of the dissolved substances find the barrier impermeable. Yet, though they cannot penetrate the septum, they can, and do, exert a continual pressure upon it by virtue of their perpetual movement; this osmotic pressure is regulated by the *number* of molecules held in solution, but is independent of their nature. Since an ion in solution ranks as a molecule, whether it represents an atom or a group of atoms, it follows that the osmotic pressure exerted by snow-water is extremely low. But the blood serum has a very considerable osmotic pressure, due chiefly to its NaCl content, and this is maintained at a nearly constant level. When, then, two fluids of such different osmotic pressure are lying on either side of the stomach wall (which is permeable to water from blood to stomach, but not from stomach wall to blood) there must be a relative increase in the velocity of the osmotic stream from the blood, since there is only a diminutive counterstream opposed to it. The tendency would then be for the epithelial cells of the stomach wall to become swollen, and perhaps loosened, by the fluid that is drawn from the higher to the lower pressure level. In fact, the drinking of snow-water is apt to produce an urticaria of the stomach mucous membrane, with all its attendant symptoms of gastric distress: it acts as a protoplasmic poison on the gastric cells simply by virtue of its want of approximation to the normal osmotic relations of the body fluids. It is not the low temperature of the water (though that certainly assists by depressing the warning sense of taste) but its extreme purity that carries danger with it.

The same considerations, of course, apply to the not uncommon experience of finding that, after a time, patients object to being given ice to suck, complaining that it nauseates them. Under such circumstances artificial ice is often much better tolerated than the natural product, not because it is purer but for the very opposite reason. Its coefficient of conductivity is as high as 137, and therefore it approaches more nearly in characteristics to ordinary tap-water. Since, then, both reason and practical experience seem to support your contention that "melted snow has a tendency to produce very harmful symptoms," I think we may legitimately indulge in a paradox, and assert that the toxicity of uncontaminated water is only commensurate with its purity.

But when we come to question the relationship between snow-water and simple goitre we are on much more uncertain ground, and I would be inclined to reverse Dr. Guthrie's suggestion and say that the old doctrine that snow-water is generally unwholesome has led to the belief that it causes so terrible a condition as goitrous cretinism. Certain it is that when a disease is ascribed in one district (e.g., the Alpine) to the purity of the water, and in another (e.g., Staffordshire) to the Ca and Mg constituents of the water we are far from arriving at its true etiology. That the latter supposition is untenable seems clear when we remember the number of patients who drink the earthy alkaline and calcareous waters of such spas as Contrexéville or Wildungen. These resorts would soon lose their popularity if the unhappy visitor was to be penalised for the cure of his urinary disorders by the unwelcome acquisition of a bronchocele. And if snow-water is responsible for the condition the recommendation to distil the water of goitrous regions is at least a little curious.

The truth seems to be that any influence the condition of the water has on the endemic factor is only a slight one. Martin [1] has clearly shown this in an inquiry into the causes of goitre as met with in Staffordshire, and McCarrison,[2] in a very convincing paper, goes further and adduces strong arguments in favour of the disease being due to an intestinal parasite which has its external habitat in calcareous soil. He points out, too, that filtration of the water does not prevent or cure the disease as long as people live in the infected area, although an organically impure water may further its spread.—I am, Sir, yours faithfully,

Blackpool, Oct. 20th, 1909. RALPH S. OLDHAM, M.D. Dub.

[1] THE LANCET, Dec. 8th, 1906.

THE ETIOLOGY OF LEPROSY.

To the Editor of THE LANCET.

SIR,—With reference to your annotation in THE LANCET of Oct. 16th on "The Utility of the Examination of the Nose and Nasal Secretions for the Detection of Leprosy," the idea that leprosy started in the nose is an old one. In a general review of leprosy which I contributed to the *Quarterly Review* (No. 394, April) in 1903, I mentioned the view of Pliny on the point, viz.: "Diximus elephantiasim ante Pompei Magni ætatem non accidisse in Italia, et ipsam a facie sæpius incipientem, in nare prima veluti lenticula, mox increscente per totum corpus, maculosa variis coloribus et inæquali cute, alibi crassa, alibi tenui, dura, alibi ceu scabie aspera, ad postremum vero nigrescente et ad ossa carnes adprimente, intumescentibus digitis in pedibus manibusque" (Pliny, Book XXVI., I., 5 (Ed. Teubner, Leipzig, 1897, p. 178). This opinion of Pliny is also referred to by Fracastor in his chapter on "De Elephantia" (Caput XIII., Liber ii., de Contagionibus, et contagiosis morbis, et eorum curatione).

A few years ago Sticker, a German observer, expressed the opinion that leprosy practically always began in the nose. This is too sweeping a statement. But the possibility of such a mode of infection should always be borne in mind, especially from the point of view of early treatment, which should be energetic. As to "acid-fast" bacilli generally, it has been shown that they may normally inhabit the nose, quite apart from leprosy—a point to bear in mind.

I am, Sir, yours faithfully,

GEORGE PERNET, M.D.,

Harley-street, W., Oct. 13th, 1909. English Editor of *Lepra*.

"SUITABLE FEES."

To the Editor of THE LANCET.

SIR,—At a meeting of the South-West London Medical Society held in Bolingbroke Hospital the enclosed correspondence was brought before the members, and they, feeling that it was a matter which should be brought before the profession at large, asked me to forward it you for early publication. I am, Sir, yours faithfully,

LEONARD S. MCMANUS,
President, South-West London Medical Society.

Spencer-park, S.W.

[COPY.]

Metropolitan Borough of Wandsworth, Council House,
Wandsworth, S.W., 4th October, 1909.

DEAR SIR,—A committee of this council have under consideration the desirability of retaining the services of a medical practitioner in each of the five districts into which the borough is divided to examine the council's employees who claim sick allowances in cases of accident or illness, and to certify whether or not they are capable of discharging their duties. Before making a recommendation on the subject to the council the committee are desirous of ascertaining the approximate cost of the proposed scheme, and from inquiries which have been made the following appear to be suitable fees for the work. (*a*) If the employee attends at the medical practitioner's surgery 1*s.* per case for each examination and report; (*b*) if the employee is unable to attend at the surgery and the medical practitioner visits him at his home 2*s.* 6*d.* per case for each examination and report.

Wherever possible the men would be required to attend at the medical practitioner's surgery for the examination, but in some cases it would be necessary for it to take place at the men's homes or elsewhere. With the view of assisting the committee in coming to a decision on the subject I shall be obliged if you will inform me whether you would be willing to undertake the work referred to in the district No. 1 shown on the enclosed map on the terms above mentioned. Kindly return the map when you reply.

I am, dear Sir, yours faithfully,
HEN. GEO. HILLS, Town Clerk.

Dr. B. Duke.

[DR. DUKE'S REPLY.]

Windmill House, Clapham Common, Oct. 11th, 1909.

DEAR SIR,—While thanking you for so kindly submitting to me the list of fees offered by the council for examining and certifying their employees I must respectfully decline such a tempting offer. I can only regret the council has such a contemptible opinion of the value of a medical man's time. I am, dear Sir, yours faithfully,

B. DUKE.

Henry Geo. Hills, Esq.

[2] Brit. Med. Jour., Sept. 22nd, 1906.

THE THIRD INTERNATIONAL CONGRESS OF THE MEDICAL PRESS.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

As I have briefly reported to your readers, the Third International Congress of the Medical Press was held in Budapest on August 27th of this year, just before the meetings of the International Medical Congress. The importance of the occasion will justify me in now giving a full account. The Congress was held in the Academy, a palatial edifice of Renaissance style built some 40 years ago in the most beautiful part of Pest, overlooking the Danube, close to the great suspension bridge and with the old and picturesque town of Buda just opposite. It contains a large library, a lofty reception-room, a historical picture gallery, and many commodious rooms for the meetings of learned societies. One of the largest of these rooms was placed at the disposal of the International Association of the Medical Press for its Congress and other meetings.

The Formalities of the Congress.

On Friday, August 27th, there was held the International Congress proper, at which any medical journal could be represented. On Saturday morning the General Assembly of the International Association of the Medical Press held its meeting, while the first part of Saturday afternoon was given up to a meeting of the international committee of that association. Thus on the Saturday only representatives of journals that are affiliated to the Association of the International Medical Press had a right to be present.

Early in the morning of Friday a large number of Press representatives were already assembled, when in the absence through illness of Professor Posner of Berlin, President of the Association, Dr. L. DÉJACE, editor of the *Scalpel* (Belgium), as Vice-President of the Association, took the chair. Professor M. DE LENHOSSÉK rose first on behalf of the Hungarian Association of the Medical Press to wish a hearty welcome to the members of the Congress. He expressed the desire felt by all his colleagues that the aspirations which had brought the congress together might be fully realised. In Hungary the medical press was young but progressive. The first Hungarian medical journal was issued in 1831 and it was not till 1857 that a second paper made its appearance. That second paper, after weathering many a storm, still exists and several other papers have sprung up since. If we include journals devoted to hygiene there are some 30 medical papers in Hungary. Better still, they were now united together in a press association and modestly claimed to take their stand by the side of the greatest publications of the world as fellow members of the International Association of the Medical Press. The Hungarian papers strove to make known the latest progress achieved. They were at one with the moral principles proclaimed by the International Association of the Medical Press and would willingly participate in any endeavour to preserve the tone of the medical press as a whole. "The Hungarians are grateful to the association for having included their papers among those which have this aim," said Professor M. de Lenhossék, who concluded by again cordially welcoming the Congress to Budapest. After a courteous letter from Count Albert Apponyi, Minister of Public Worship and of Public Education, had been read, in which that energetic Minister regretted that he could not be present in person to welcome the Congress and this in the name of the Hungarian Government,

Professor Dr. CALMAN MÜLLER, President of the Sixteenth International Congress of Medicine, rose and said that he was pleased to have an opportunity of expressing his thanks to the medical press. But for the support of the press the International Medical Congress could never have attained its present magnificent developments. The press did not only record what occurred, but it prepared the road for the future. The true journalist was the precursor of his time. He was not content to relate what had happened but must go forward, hold up the light, and prepare the way for what was going to happen.

As acting President of the Congress Dr. L. DÉJACE responded to these welcomes in the name of the meeting, saying that he understood that the Hungarian Government had lent every assistance to assure the success of the present gathering. He then went on to point out that the medical press had become the instructor of the medical profession and was inspiring the medical practitioner with the desire to continue to learn after the obligatory portion of his education was terminated. Medicine could not stand still, while changes came not only from within but from without. New laws were made by countries to meet new necessities, which in their turn altered the position of medical practitioners. "We are now," said Professor Déjace, "as a profession beginning to treat society as a whole, where formerly we only treated its individual members. In such collective treatment governments and municipalities have to take part, and here comes in the most useful function of the medical press. It is for the medical journals to teach how we can best prepare for collective defence against the spread of disease. Fatal thrombus will result if the circulation of ideas is not well maintained."

Dr. R. BLONDEL, General Secretary of the Association, spoke next, and said that the meeting being open to representatives of all medical papers the agenda would treat questions of general interest where it was needed to find effective remedies for acknowledged evils. "The journals which are already grouped together," he said, "will resent any interference, but must make some sacrifice for the sake of union. On the other hand, we have to exclude those whose purport is to promote some trade or business interest. We must not let the commercial element trespass on the scientific and literary sides of our work, otherwise the medical press will sink to the level of the political press or fall into the hands of mere financiers. In this great struggle we must be unanimous and not fear if an individual paper here and there drops out of our ranks. We must remember that we are the servants of truth; that truth cannot be served unless we are free; that we must have strength to defend our freedom, and to secure that strength we must be united."

The History and Object of the Movement.

Dr. DÉJACE then vacated temporarily the chair so that he might present his report on the History and Object of the Association. He recalled how unmanageable the medical congresses had become and that, so far back as the congress held at Rome in 1894, Professor Posner of Berlin, Dr. Baudouin of Paris, and others had discussed the difficulties facing the medical press when it attempted to describe such vast and disorderly assemblies. In 1897 members of the French medical press, having debated these matters, decided to hold an international congress of the medical press in Paris during the Universal Exhibition of 1900. This congress took place on July 26th of that year, immediately after the Congress of Medical Deontology (medical ethics and economics) and just before the Thirteenth International Congress of Medicine. All who were present, he said, would remember the interest manifested on that occasion. We had for honorary president Professor Virchow and for acting president Professor Cornil, and we appointed a committee to decide whether it was advisable to form an international association of the medical press and to prepare for a second meeting. We met again at Brussels in 1901 and at Monaco in 1902, when, thanks to the gracious hospitality of Prince Albert of Monaco, the representatives of various nationalities were entertained for three days and drew up the rules and constitution of the association. In 1903, when the Fourteenth International Congress of Medicine met at Madrid, a Second International Congress of the Medical Press was held which definitely accepted the rules prepared at Monaco and thus the international association was definitely constituted. Since then the international committee of the association has met every year, while a general assembly was held at Lisbon in 1906, as now at Budapest, just before the International Medical Congress. Dr. Déjace then passed in review the various topics discussed at the annual committee meetings and larger triennial gatherings. The most difficult question was to draw the line between legitimate and illegitimate publicity. Some thought that the ideal medical journal would be without any advertisements, but be admitted that as the medical press appealed to only one class of the public it might not be able to live on its circulation alone, while the advertisements were most useful to the profession by keeping before them a record of the resources that were at their disposal. But the association would not recognise concealed advertisements

and refused to admit to affiliation journals that were distributed gratuitously. The Association of the Medical Press had endeavoured to prevent the publication of articles in the lay press that professed to be signed by medical men but which were not written by medical men, and in other ways had attempted to protect the public against paid "puffs," and he was sure that as time went on the efforts of the International Association of the Medical Press would be gratefully acknowledged by the public.

Dr. BLONDEL said that the paper just read did not need discussion, and he only rose to add some information to that already given. Two new associations had joined, the Polish Association and the Hungarian Association. On the other hand, the Portuguese Association had fallen out of the ranks, and the Americans, in spite of continued negotiations, had not yet come in. But if the United States of America could not as yet participate in our work we were actively supported from other parts of the New World, and he was glad to welcome, in the present assembly, representatives of the Brazilian and of the Mexican medical press. Russia was now coming back to the fold. It is true that this was unofficial, for anything like an international association was not tolerated in Russia. But the medical press in Russia had a very strong national organisation which was animated with the most friendly feelings towards the national associations of the medical press in all other countries.

The British Report and Proposals.

The PRESIDENT now called for the report of the British delegation. This had been translated and printed in French and was in the hands of all present, and was as follows:—

DRAFT REPORT FOR THE MEETING OF THE INTERNATIONAL ASSOCIATION OF THE MEDICAL PRESS.

At the meeting of the International Committee of the Medical Press held in London in 1907 three resolutions dealing (1) with articles written by medical men in favour of medicinal products; (2) with medical advertisements generally; and (3) with the assigning of rights of republication of articles in medical journals to commercial firms by medical authors were agreed to. Inasmuch as the practical value of these resolutions must depend on the recognition of the principles involved by the general body of the medical profession in each country, they were submitted to the British Medical Association and were approved by it at its annual meeting last year (1908). As, however, the third resolution contained no provision with regard to the reproduction of articles by the medical authors themselves for the purposes of advertising medicinal products the following additional resolution was adopted at the annual meeting of the British Medical Association at Belfast in July this year (1909):—

That it is the professional duty of medical authors of articles in medical journals to coöperate with the proprietors and editors of those journals in preventing any improper use of such articles for the purposes of advertisement.

This extension of the original resolution of the International Association of the Medical Press to provide that articles dealing with medicinal products written by medical men and published in medical journals shall not be reproduced by the manufacturers or by the authors for the purposes of advertisement without the specific consent of the editors, proprietors, or publishers, offers a safeguard against puffing. If manufacturers alone were required to obtain permission from the editors or publishers before reproducing articles dealing with drugs, preparations, or other chemical products, it might be possible that manufacturers might attempt to induce medical authors to undertake the reproduction of the articles for them, so that the provision contained in Resolution 3 would become nugatory. To prevent such evasion of the principle involved in Resolution 3 by a legal agreement between the author and the editor or publishers of the medical journal in which the article appeared would under English law at least be costly and troublesome, and such a legal document would be wholly unnecessary in the case of the majority of articles on therapeutics or pharmacology which are written in a disinterested manner by men who would not lend themselves to a dishonourable agreement. Since it appears that it would be difficult and inadvisable to deal with the matter by a legal document, it was recognised that a sufficient safeguard would be obtained if the medical profession declared that the republication of articles referred to without the consent of editors or publishers would be regarded as professionally unethical.

It is worthy of notice that the resolutions as adopted by the British Medical Association overcome to a large extent difficulties which have arisen in the past, when the responsibility of the production has been denied both by the authors of the articles and by the manufacturers of the products which are dealt with in the articles. Under the regulations suggested the medical author could be called upon to answer a charge of unprofessional conduct if any article by him published in a medical journal were reproduced without the permission indicated. Were he able to prove that the reproduction had been made without his sanction it would follow that the firm had infringed the English law of copyright, and was therefore liable to legal process.

What is Advertisement?

The British report gave rise to a great deal of discussion. Dr. NEUSTATTER, for Germany, agreed in principle with the British report, and then described his German experiences. The great difficulty was the limitations of the copyright law. Even when authors and their publishers were agreed, a business firm could reproduce for advertisement purposes what had been said and there was no redress, and he proceeded to mention several such cases.

Mr. W. H. ARMIT, for the British contingent, answered that the point at issue was not properly understood. There was a tendency to mix up the question of articles written expresaly to serve for advertisement purposes and those referred to in the British report, which were written in good faith and were not meant to be used as advertisements, but which were so utilised by commercial houses in spite of the protests of the authors and the publishers. What the British section desired was to appeal to the entire medical profession to deal with the matter as a question of honour.

Dr. NEUSTATTER again rose, saying that the illegitimate use of such articles could not be prevented. Even if no one consented to their reproduction they would be reproduced all the same.

Dr. BLONDEL appealed to the Congress to keep to the question of improper advertisement or "*réclames*."

Dr. GRÜN (Vienna) endeavoured to define what was meant by the word *réclame*. The grievance had reached such a point that the medical press tended to suppress therapeutic investigations. Men of science were afraid to test the action of a drug for fear of being accused of "puffing" some commercial product. He thought the International Association of the Medical Press should define what was justifiable and what was not.

Dr. R. JAFFÉ (Hamburg) agreed with Dr. Grün, and Mr. ARMIT informed Dr. Jaffé that advertisements offered to the English medical journals, THE LANCET and the *British Medical Journal*, were controlled by the editors.

Dr. FOVEAU DE COURMELLES (Paris) pointed out that customs differed in the different countries. In England there were very few medical journals and they were strong enough to do as they liked. It was difficult to define where legitimate publicity ended and "puffery" commenced. It seemed to him that the only positive distinction was the question of payment. If the parties interested paid to have the article written and published, then it was a "puff" or *réclame*. If they did not pay, then, however favourable the article might be, it was to be accepted as legitimate praise. But no one had the right to reproduce such an article for advertisement purposes. There were such things as copyright laws.

Dr. LUCAS-CHAMPIONNIÈRE (France) remarked that there were in Germany poor persons who, under a scientific guise, made it a business to write "puffs." In France there were pseudo-medical journals, owned and published by druggists, which were "puffs" from beginning to end. What was needed was a scheme of measures to meet the different practices of the various nations. In France the copyright law could be used in certain circumstances, but not so in others, especially in regard to names. Thus the speaker had once written a paper on the benefits derived from the use of oxygenated water in medicine. Thereupon a manufacturer of *absinthe* introduced some oxygen in his *absinthe* and then quoted what the speaker had said on the benefits of oxygen and made it appear as if his *absinthe* was approved by the speaker. Dr. Lucas-Championnière wanted to prosecute the *absinthe* manufacturer, but his lawyer strongly advised him not to embark on so expensive and hazardous a course. "We must more clearly define what we mean and what is our position," said Dr. Lucas-Championnière, "but even then we should not be able to prevent our names from being used in vain."

Professor ASCOLI (Italy) remarked that much depended on the ability of the editors to discriminate between legitimate and illegitimate publicity.

Mr. ADOLPHE SMITH (London) agreed that a clear definition of the terms used was needed. Dr. Blondel had said that a *réclame* was "a paid article." Surely this was only half the sentence. A *réclame* was an article paid for by a commercial firm to promote the sale of its products. A journalist living as a journalist must be paid for the work he is commissioned or engaged to do. He could not live on thin air. The scientific journalist's position should be sufficiently independent to allow him to devote himself exclusively to the pursuit of truth.

Dr. FOVEAU DE COURMELLES doubted if there were any medical journalists, medical men who lived exclusively by journalism, in France, a view with which Dr. LUCAS-CHAMPIONNIÈRE was not wholly in accord.

Dr. BLONDEL, in reply to Mr. Adolphe Smith, said that payment in return for the writing of puffs was illegitimate; he did not refer to legitimate payment for the writing of articles by professional journalists. "A *réclame*," he said, "is

an article for which the writer is paid either by a commercial firm or by the owners of a paper and in which the writer has to express a favourable opinion concerning a drug, an appliance, or perhaps a method of treatment. The writer is not free to say what he conceives to be the truth: he turns out a venal article. We of this association are opposed to such articles because they obscure the truth and demoralise letters." This sort of article, he went on to say, had become a form for obtaining publicity; it was driving out the old and legitimate form of advertisement where the reader knew what was editorial and what was not. Many medical journals had a column which was usually denominated "Therapeutic Notes," and in France it was open to abuse. A certain sort of advertiser will, for instance, sign a contract for three years. At the end of the second year he will write a letter pointing out that he is a good advertiser and asking that a very serious and scientific note, which he encloses, may be published in the body of the journal. The very serious and scientific note proves to be a puff, but if it is not inserted the probabilities are that at the expiration of the three years the advertisement will not be renewed. Dr. Blondel insisted that it was necessary for medical journals to unite so as to stop this sort of thing, or in a few years the medical press of France and some other countries will be quite helpless. In Germany certain manufacturers have helped the medical press to get rid of a class of writers who offer to turn out "puffs." A list of those who approach commercial firms with such offers has been drawn up and communicated both to editors and manufacturers, with the result that this abuse is in a fair way to total extinction in Germany. Dr. Blondel thought that it might be a resolution of the Third International Congress of the Medical Press that all journals in the association should declare to their advertisers that the sale of space implied no other obligation on the vendors, and that such papers as would not assent to the proposal might be excluded from the association.

At this stage the discussion was brought to a close, and the Congress adjourned for lunch.

A Permanent Commission for the Organisation of International Congresses of Medicine and of the Allied Sciences.

At the afternoon sitting of the Congress the report submitted by Dr. DAWSON WILLIAMS concerning the formation of a Permanent Commission for the organisation of International Congresses of Medicine and of the Allied Sciences was discussed. This report having been translated into French was printed and distributed among the members present. Mr. ADOLPHE SMITH explained that the report had been fully discussed by the British Section of the International Association of the Medical Press, Dr. Squire Sprigge presiding. Several points had been altered and modified, and it might now be taken as representing the opinions of the British section. It might also be considered, if not as an amendment, then as an attempt to elaborate certain proposals that had been issued from Budapest and forwarded to the various national committees of the International Medical Congress. These latter proposals gave but few details and did not touch at all on the question of ways and means, but while providing for the constitution of a Permanent Commission also proposed to exercise discretion over the sectional resolutions and select those to be submitted to the plenary sessions. The British project in a preamble set forth the necessity of continuity and proposed the creation of a Permanent Commission consisting of delegates of national committees, secretaries of the sections of the previous congress, the president and general secretary of the forthcoming congress and of the congress just over. This would mean a sort of international parliament of about 70 members, quite a small congress in itself. Consequently it could not meet often but should meet immediately after each international congress and could be convoked between the congresses if some exceptional difficulty arose. The most important function of this Commission would be the election of a small executive committee called the bureau, consisting of not more than 20 members, which would meet at least once a year, and really do the work. So that this work should be continuous the bureau would appoint a permanent paid general secretary, possessing knowledge of three European languages, experience of congress management, and ready to take up his residence in the city where the next congress was to meet at least four months in advance.

Dr. BLONDEL opened the discussion by saying that at Budapest he had found the preliminary organisation very complete and systematic. The International Commission would meet in a few days and the representatives of all the nations would then discuss a proposal for the creation of a permanent commission consisting of only one member per nationality, and no representative whatsoever of the Press. It was the same idea as that put forward by the British Section, but with fewer persons, for the British proposed two representatives per nation and three representatives of the International Association of the Medical Press.

Mr. H. W. ARMIT said the object was to send the British proposal to the international meeting when it was held, in the hope that some at least of the suggestions it contained would be adopted.

Dr. DÉJACE, who was presiding, gave further explanations, and

Mr. ADOLPHE SMITH pointed out that the British proposal differed in two important respects from the proposals emanating from Budapest. The first article of the Budapest scheme said in its first clause that the Permanent Commission would have "to examine resolutions adopted by the sections and select those which shall be submitted to the Plenary Assembly." This was so delicate a matter, bordering on the establishment of a censorship, that the British section had left it out altogether, thinking the whole subject needed very careful study before attempting to legislate upon it. Then also the draft regulations from Budapest said nothing whatsoever about the other congresses. Yet one of the very first objects in creating a permanent commission was to prevent clashing with other congresses. It was not generally realised how many members of the medical congress were also members of these other congresses. There was, for instance, deontology; this was not exclusively medical, but the ethics, the dignity and economics of the profession interested every medical man without exception. Only one international deontological congress as yet had been held, but it was to be hoped others would follow. Then the congresses, such as those on tuberculosis, hygiene, demography, alcoholism, food adulteration, housing of the poor, school hygiene, and the long list of special diseases, otology, dermatology, &c., all these had their periodical international meetings, and yearly the confusion was becoming worse confounded. What was needed was some permanent and international authority that would marshal all these various efforts, systematise them and establish order.

Dr. DÉJACE agreed that an authority capable of acting as a uniting link was very desirable, but he did not think the meeting could ask the International Medical Congress to form such a link.

Dr. LUCAS-CHAMPIONNIÈRE argued that as the International Medical Congress could not do it the medical press should undertake the task. "We," he said, "are separated, but our mission is to gather together and to unite dissociated interests." He would support the arguments brought forward by Mr. Adolphe Smith. The press would be crippled if, for want of international organisation, two important congresses met at the same time. It was difficult enough to describe and to report one congress, let alone two. The organisations of medical and allied congresses should consult the international committee of the International Association of the Medical Press. The members of the committee had to attend these various congresses and knew all about them and were therefore the natural arbitrators in such matters. The press had to serve all the congresses, and the congresses dealing with sociology interested medical men nearly as much as those only concerned with purely and solely scientific subjects.

Mr. ARMIT said that the British section did not show the audacity of Dr. Lucas-Championnière and feared that as an organisation the medical press were not yet strong enough to carry out so ambitious a programme.

Dr. BLONDEL remarked that the International Congress on Tuberculosis, as also that on hygiene, had already permanent international commissions; what was needed was a link between these commissions.

Dr. LUCAS-CHAMPIONNIÈRE, speaking again, urged that the permanent commission of the International Medical Congresses should negotiate with the international committee of the International Association of the Medical Press as to when the medical congresses should meet, and considered that the latter body should be asked to advise in regard to the organisation of such congresses. As an international

association the debates of the journalists demonstrated that they were not always agreed in matters of ethics; but in respect to the organisation of medical congresses they were quite unanimous and possessed the necessary experience.

Dr. K. JAFFÉ agreed in principle but doubted whether the other bodies concerned would also agree.

Dr. DÉJACE then consulted the meeting as to whether it would support the formation of a permanent commission for the international congresses of medicine, and this was unanimously approved.

Dr. LUCAS-CHAMPIONNIÈRE said that all parties or congresses were free to found any organisations they might fancy. The point was that where such organisations or permanent commissions were formed, they would, one and all, have to avail themselves of the services of the medical press. A medical congress would do as it pleased; but the press would act for all, and should become, by its widespread experience, the natural international adviser.

Dr. BLONDEL said that the International Medical Congress had the same idea, but, nevertheless, no member of the press congress had been invited to take part in the meeting that was to decide as to the formation of a permanent commission. It so happened that two or three members of the Press Congress, being also secretaries of their national committees, were entitled to participate at the meeting in question. This was his own case, and Dr. Blondel offered to submit any proposal the Press Congress might make.

Dr. LUCAS-CHAMPIONNIÈRE said that some confusion had arisen. The question was whether the organisation formed by the medical press could become the permanent connecting link between the various congresses. At present the press had no voice at the meeting to be held by the International Commission of the present Medical Congress. "We can act for ourselves," he said, "and call upon other bodies to support us."

Mr. ADOLPHE SMITH thought that a permanent international commission would need paid assistants to do clerical and other work, and also men of great diplomatic skill to manage. The press organisation did not as yet possess the men or the money to undertake successfully such a task; but it wanted to be represented in an influential manner on the permanent commission which the Medical Congress was about to appoint. Further he urged that the permanent commission of the International Medical Congress should federate with the permanent commissions of the other international congresses representing the allied sciences.

Dr. LUCAS-CHAMPIONNIÈRE expressed his satisfaction that the position was now clearly defined. The press must be largely represented in the work of the organisation of congresses, otherwise grave defects are sure to arise. "We therefore claim a big place where at present we have no place at all."

Dr. JAFFÉ now formally proposed that the British report on the formation of a permanent commission for the organisation of International Congresses of Medicine and of the Allied Sciences be presented to the Commission of the present Medical Congress, so that this document, together with the observations made during the course of this debate by Mr. Armit and Mr. Adolphe Smith, might serve as a basis of discussion.

After a few more observations and explanations this proposal was formally put to the Congress and carried unanimously. The discussion on this subject was thus terminated.

What the commission of the Medical Congress did with the proposal presented to it by the Congress of the Medical Press and how it dealt with the entire question is recorded in THE LANCET of Sept. 11th (p. 800, *et seq.*), the result of the deliberations being that the President of the International Association of the Medical Press was included in the Permanent Commission.

Summaries and Translations of Original Articles.

The next subject for discussion was a report presented by Dr. BLONDEL on the advisability of printing summaries of original articles in various languages. Some Swedish and Norwegian medical journals already do this, he said, and it greatly facilitates the spread of knowledge.

Dr. M. DE LENHOSSÉK, President of the Hungarian Section of the International Association of the Medical Press, explained that Hungarian papers were also in the habit of publishing summaries of their contents in French and in German.

Professor DURUY thought this was an excellent practice, as in the course of time men would find that their only chance of success depended on their ability to write in at least one of the three international languages.

Dr. NEUSTATTER said the most essential was to have a French summary of the English and German articles. Every German was obliged to learn French, and not 5 per cent. of them knew English.

Mr. ADOLPHE SMITH said they had not the power to force the owners of journals to incur the expense of these translations; and the British representatives at the Congress had been instructed not to promise what they were not sure of being able to carry out.

The Italian delegates, Dr. CECHERELLI and Professor ASCOLI, suggested that Italian should be one of the international languages, but a proposal that summaries should be in all four languages was rejected.

Finally, a resolution was carried recommending all journals affiliated to the International Association of the Medical Press to place at the conclusion of original articles a summary of the article "in one of the languages habitually employed for international relations."

Meeting of the General Assembly of the International Association of the Medical Press.

On the following day, Saturday, August 28th, was held the general assembly of the International Association of the Medical Press. The difference between this meeting and the Congress was that, instead of being open to all comers, only representatives of journals affiliated to the International Association of the Medical Press were admitted. Nevertheless, there were present delegates of the medical press associations of Austria, Belgium, Brazil, Canada, Egypt, France, Germany, Great Britain, Hungary, Italy, Poland, Spain, and a Russian doctor, who, however, had to explain that, while sympathising in every way, it was illegal for Russians to belong to an international organisation.

At the commencement of the morning sitting Dr. LE CAVALIER of Montreal informed the meeting that in Canada there were three medical journals published in French and three in English. They desired to enter into regular communication with the medical press of Europe, so that the efforts made in Canada should not be ignored by the rest of the world.

Dr. QUEVADO of Brazil found that in Brazil there was no one journal sufficiently distinguished to be unanimously chosen as leader; therefore, they were divided by jealousies. Consequently, he thought that great good might be achieved if some central body, acting from without, could call upon the various Brazilian journals and journalists to join the Brazilian Association of the Medical Press.

Dr. JAFFÉ explained how the black list of the authors of puffs had worked satisfactorily in Germany and urged that the editorial staffs of newspapers should control the advertisement columns.

Mr. ARMIT again explained that the two leading medical journals in England—THE LANCET and the *British Medical Journal*—controlled their advertisements editorially. He stated that the British Medical Association and the British Section of the International Association of the Medical Press were both now investigating what sort of fees might be legitimately given to medical men who undertook to write impartial reports on clinical and pharmacological subjects. This question was very complex and much study was needed before practical proposals could be made.

Favourable reports were received as to the organisation of the sections in Belgium, France, and Spain.

Dr. LUCAS-CHAMPIONNIÈRE suggested that to establish a system of insurance, or indeed any scheme of social work, might be of great service in strengthening the bond of union.

Dr. R. BLONDEL said that already proposals had been brought forward to, for instance, centralise all the subscriptions raised from time to time in various journals (1) to relieve distress; and (2) to erect monuments to deceased famous men. Passing to the general business, he said that though there were no representatives from Holland on the present occasion they had received a written report from Holland describing the efforts made to keep quack advertisements out of the Dutch papers.

Professor ANDREA CECHERELLI explained that the long faction fights in Italy were coming to an end, and that before the conclusion of the current year the medical press of Italy would be united in one single organisation, and able to take its due share in the international movement.

Dr. CORMANOS PACHA said that that the Association of the Egyptian Medical Press was the youngest branch of the International Association, but it was none the less vigorous and anxious to play its part in the general movement.

Dr. BLONDEL announced that *l'Annuaire* of the association would appear as soon as the Italians had settled their differences.

The question of publishing summaries of original articles in various languages was again discussed, and Dr. OTTO NEUSTATTER of the Dresden *Gesundheitslehrer* urged that we were not called upon to select an official language, though he thought that, practically speaking, the French language would be generally employed. The point was to render the practice of translations more popular.

Professor Dr. JULIUS DONATH (Budapest) explained that his paper, the *Internetesseler Zeitschrift Epilepsia*, was now published in three languages and they hoped shortly to add a fourth, the Italian language. Professor RECASENS of Madrid said a few words for Spanish, which was the language of South and Central America. After this the assembly adjourned for lunch, having contented itself with a general recommendation that translations should be made as often as possible.

Meeting of the International Committee of the Association.

During the midday interval the International Committee of the International Association of the Medical Press held its annual meeting. The balance-sheet presented by the treasurer was submitted and adopted. From this statement it appears that Norway heads the list for regularity of payments. The next point was the election of the officers or bureau of the association, it being understood that they would remain in office for four years if the next medical congress did not meet sooner. Professor Lucas-Championnière (France) was elected President, and Dr. Déjace (Belgium) and Professor Dr. M. de Lenhossék (Hungary) Vice-Presidents. Dr. Raoul Blondel as general secretary and Dr. Dawson Williams as treasurer were re-elected by acclamation. The committee, it was decided, would meet next year at Brussels, probably at the same time as the International Conference on Tuberculosis.

In the afternoon, when the general assembly of the International Association met again, it was decided that the ensuing International Congresses of the Medical Press should be held at the same time as the great International Medical Congresses. Therefore the next International Congress of the Medical Press will meet in England in 1913.

The Question of Puffery.

The assembly then proceeded to discuss once more the question of "puffs," still further insisting on the need of a definition, and it was proposed that the International Committee should prepare a report on the subject to be submitted to the next general assembly.

Dr. LUCAS-CHAMPIONNIÈRE was anxious to applaud the stand made by the British medical journalists on the subject.

Dr. BLONDEL pointed out that the British proposal was to struggle against both forms of "puffs," the article written as a "puff" and the legitimate article which was subsequently and illegitimately used for purposes of advertisement. There were laws to protect copyright and these should be invoked.

A motion was then carried to the effect that in each country every effort should be made to apply such copyright laws as bore on the question.

The assembly, which had been well attended throughout, had now exhausted its programme, and after a few words of congratulations from the chair the members took cordial leave of each other.

BRISTOL AND THE WESTERN COUNTIES.

(FROM OUR OWN CORRESPONDENTS.)

University of Bristol.

THE number of students entering the Bristol Medical School this first University session is 20, a definite increase on past years. There were 13 competitors for the entrance scholarship, the largest previous number having been 4. The returns for the faculties of science and engineering are also gratifying, the department of chemistry having received over 100 new students.

The Bristol Medico-Chirurgical Society.

The annual meeting of this society was held on Oct. 13th in the Medical Library of the University. The retiring President, Dr. J. Michell Clarke, having introduced his successor, Mr. James Swain, to the chair, the latter delivered his inaugural address. This was a most interesting *résumé* of the evolution of the art of surgery traced from the earliest times down to the end of the sixteenth century. It was illustrated by a series of lantern slides, judiciously chosen and excellently produced, representing surgical operations and instruments of all periods, beginning with an ancient Egyptian illustration of the operation of circumcision. The fact which Mr. Swain particularly emphasised was that in many respects there was little difference between the principles of surgery as practised by Hippocrates from those on which the operative procedures of the present day are based, a reflection which should engender humility in twentieth century surgeons. The report of the honorary secretary, Dr. J. A. Nixon, showed that the society is full of vigour. During the past year 30 new members had joined, while 22 had left the society, the total membership on Oct. 1st, 1909, being 166. The average attendance last year at the meetings (which are held monthly from October to May) was 41. The financial statement was also satisfactory, showing a balance in hand of £81 14*s.* 8*d.* The honorary librarian's report showed that the new borrowing scheme, initiated during the year 1908–09, had met with favour, 90 members having availed themselves of the opportunity of borrowing books. The library, which consists of books belonging to the society, to the medical faculty of the University, and to the two large hospitals, now contains 21,235 volumes and takes in 251 periodicals. By means of an arrangement with a metropolitan lending library the privileges of members are further extended.

The South-Western Poor-law Conference.

The annual Poor-law Conference for the South-Western district was held at Salisbury on Oct. 12th, under the presidency of Sir T. D. Acland. Mr. F. W. Cripps (vice-chairman of the Cirencester union) read a paper on the Proposed Abolition of the Workhouse. He urged that that institution need not be abolished, but that guardians should be relieved of the care of two classes, the epileptics and feeble-minded, who should be cared for under a similar system to the lunatic asylums, and that vagrants should be treated upon the lines of the recommendation of the vagrancy committee. Dr. Arthur H. Downes (senior medical inspector of the Local Government Board for Poor-law purposes), who was the invited speaker present, expressed his hearty agreement with the general principles of Mr. Cripps's paper. After a considerable discussion a resolution was unanimously passed expressing agreement with the scheme advocated by Mr. Cripps.

A Russian Tribute to Jenner.

On Oct. 4th, at Berkeley, Gloucestershire, Dr. Simon Shiwopiszew, director of the Russian Lymph Institution at Orel, and lecturer on vaccination, in company with M. Edward Hoffmann of Finland, a representative of a Finnish newspaper, placed a wreath on the tomb of the "immortal Jenner," whose remains lie interred in the chancel of Berkeley parish church. Dr. W. R. Awdry of Berkeley showed the visitors (who had journeyed expressly from Russia to place the wreath) his collection of Jenner relics. The vicar of Berkeley also received them at the Chantry, where Jenner lived.

The Midwives Act in Cornwall.

At a meeting of the Cornwall midwives committee held at Truro last week it was decided severely to reprimand a certificated midwife. It was reported that an inquest was held in April last at Crowlas upon the bodies of two children, aged two and seven days respectively. The certified midwife who attended the mother in her confinement told the parent that there was no need to call a medical man for the children, although they appear to have been in a weak condition, and the midwife eventually gave a certificate stating that the infants were of premature birth. The children were buried as a consequence of this certificate. The jury returned a verdict to the effect that death was caused by congenital inanition and want of attention, and they desired the coroner to report the case to the midwives committee.

Bristol General Hospital.

The late Mr. R. Bligh has bequeathed £656 to the funds of the Bristol General Hospital.

Dawlish (Devon) Cottage Hospital.

A house-to-house collection was recently made at Dawlish in aid of the funds of the local cottage hospital, and as a result over £100 were raised for the charity.

Cornish Centenarians.

Mr. R. Peter, J.P., solicitor, of Launceston, celebrated his 100th birthday on Oct. 9th. He received congratulations from the King and the Prince of Wales.—The death occurred on Oct. 7th of Mr. James Carne, of St. Columb Minor, the oldest parish clerk in England, who celebrated his 103rd birthday in May last.

Oct. 19th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Neglect of Children.

THREE cases of child neglect came before the city magistrates the other day. A single woman who had given her eight weeks old child opium, presumably to keep it quiet, was sent to gaol for six months. Every facility seems to be afforded for obtaining opium, and it is a favourite remedy for fractiousness or the pitiful wailing of a baby in pain. The other cases were of men, one of whom was sentenced to six months' imprisonment on a charge of neglect. He was, it may be hoped, an unusually marked example of the human brute, for in addition to neglect the man had "brutally kicked his little boy because he had attempted to stop defendant striking his wife." Such men seem uninfluenced by ordinary punishment, and after trying and failing with the good counsel and the ministrations of the chaplain it may be found that one touch of primitive nature in the shape of the "cat" may influence their moral nature. The other case was considered deserving only of three months' imprisonment. These are only samples of what takes place every day, and show that all the efforts of our educational system, all our so-called civilisation does not necessarily suffice to get rid of the savagery of the free-born Englishman.

Cheshire School Children.

An interesting report on the medical inspection of school children at Stockport, from Jan. 7th to the end of July, has been issued by Dr. H. E. Corbin, medical officer, and Dr. A. G. Caldwell, medical inspector. 3920 children were inspected, of whom 1934 were males and 1986 females. Of the 3920 examined, 2340, or 59 per cent., were notified for various defects. Dirty heads, 596; mouth breathing, 812; eye diseases and defective vision, 1165; ear diseases and deafness, 187; heart diseases and anæmia, 301. A considerable number were excluded from school—125 in all—for various ailments; 18 for discharging ears, 65 for ringworm and skin diseases, 10 for chest troubles, 5 for glands in neck (presumably discharging), 14 for eye diseases, 12 for infectious diseases, and 1 for tubercle. The excluded children would not be readmitted until medically certified as fit, by their own medical attendant or by the medical inspector at the town hall. One of the most interesting and important facts brought out was the bad condition of the teeth in the majority of the children. Nearly 80 per cent. had bad teeth, the girls being worse than the boys. It is obvious that bad teeth give rise in many cases to gastric disorder, to eating insufficient or improper food, and to anæmia, due in part to the septic condition of the mouth from caries of the teeth. In most cases there had evidently been no attempt, by even the simplest means, to keep the teeth clean. No doubt improper feeding, especially, as the report says, the eating of too much fresh white bread, had something to do with the bad condition of the teeth. Possibly the attention supposed now to be given in the elementary schools as to simple hygienic measures may lead to instruction being given in the care of the teeth, and the use of the tooth-brush after meals and at bedtime. With regard to the use of the tooth-brush, even boards of guardians sometimes need instruction. Some years ago a proposal to provide the workhouse children of a Welsh union with tooth-brushes was, as reported, received by the guardians with loud and derisive laughter and remarks which led to the conclusion that these gentlemen themselves had very little personal knowledge of the uses of the tooth-brush and did not see why workhouse children should be provided at the expense of the rates with what they themselves did not require. Dr. Meredith Young, the chief medical officer under the Cheshire county council, has also just presented an important report on the present system of medical inspection of school children in the county. He shows how important this systematic work is, as there are about 350 schools and 70,000 scholars concerned. In giving an outline of the scheme of medical inspection he says that when developed it will provide for the medical examination of every child attending a public elementary school at least three times during its school life. He points out that among other objects the question as to whether a child is capable of benefiting to the full by the education provided, can be answered, and in the event of physical or mental defect being discovered endeavours can be made to apply preventive or remedial measures. If such means as these are carried out efficiently throughout the kingdom, there should, in the course of some years, be a distinct improvement in the mental and physical condition of the coming generations. More important than anything else almost is the possibility of weeding out the unfortunate class of feeble mental degenerates, and of protecting them during their lives from being injured and being an injury to the community.

Medical Officer's Salary at Hyde.

For months past the question of the borough medical officer's fees has been discussed at the Hyde town council and in committee, with at times a good deal of heat. Two or three months ago it was stated in the council that though his nominal salary was only £80 a year the total amount received from all sources in his public capacity last year was over £400, a large portion of it coming from fees for outside cases admitted to the borough hospital. It has now been decided by the council, on the recommendation of the general purposes committee, that he should be paid a fixed salary of £65 per annum as medical superintendent of the borough hospital, which amount was to cover all cases with the exception of those of small-pox. It was stated by Councillor (Dr.) J. A. Watts, as reported, that under the new arrangement the medical officer would receive a total of £285 per annum "for services which certainly occupied a very inconsiderable portion of his time." Councillor Watts replied to a number of critics, inside and outside the council, who had, he said, complained of his attitude on the question. He denied that there was any personal element in the matter. Without expressing any opinion on the merits or otherwise of the question, or of the ethics of docking a fellow practitioner's stipend, it may be allowable to ask if the councillor considered a large portion of the fees previously received as unearned increment? Such a reason for cutting down the salary of a borough medical officer must be of very rare occurrence. It is said that the discussion on the question was "somewhat heated," so that the medical officer must have had some supporters.

Hope Hospital Dispute.

The deadlock at the Hope Hospital still continues. At the meeting of the Salford guardians held on Oct. 15th it was said that nothing had been done in reference to the vacancies on the medical staff at the hospital, where, "owing to the action of the British Medical Association, who object to the conditions of service there and to the scale of remuneration, it has been found impossible to obtain applicants." Perhaps some result may follow the meeting arranged by the Local Government Board between Mr. A. Fuller, the medical officer of the Board in charge of Poor-law matters, with Mr. A. B. Lowry, Local Government Board inspector, and a committee of four of the Salford guardians, to confer on the difficulty. In addition to the medical dilemma it is said that the hospital is under-staffed as to nurses, while as a necessary sequence the patients do not receive the attention they require.

Oct. 19th.

BRIDGWATER (SOMERSET) INFIRMARY.—The late Captain J. Chappell has bequeathed £500 to the funds of this institution.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

University of Glasgow: Installation of Professor T. H. Bryce.

THIS week Professor T. H. Bryce was formally installed in the chair of Anatomy by the Principal, Sir Donald MacAlister, K.C.B. Professor Bryce took for the subject of his inaugural lecture "The Teaching of Anatomy in Glasgow." In a short and interesting *résumé* of the history of the Glasgow chair of anatomy he first noted the remarkable length of tenure of the occupants of the chair. From 1790 to 1909 it had been held by only three professors—James Jeffrey, appointed in 1790; Allen Thomson in 1848; and Emeritus Professor Cleland in 1877. The chair was founded in 1718, and for a hundred years included the professorship of botany. Notwithstanding its specialisation the chair had always remained one of comparative anatomy, and the ideal of 1720—that university teaching of anatomy involved the teaching of everything that elucidated the structure of the human body—remained. After alluding to the professors who had previously held the chair, Professor Bryce said it would not be appropriate on this occasion to refer in detail to the many publications with which Professor Cleland had enriched anatomical literature. Suffice it that he had occupied the foremost place among the anatomists of his day in respect of the breadth of his scientific horizon. In his gift to the University and to his successors in the chair of his admirable and interesting collection Professor Cleland has left a rich inheritance for which they could not be too grateful. As a teaching museum it was invaluable to the department, and it contained numerous specimens of much scientific value. It contained, amongst other things, a large collection of skulls of the different races of mankind. Professor Bryce then shortly indicated the lines on which he hoped to see the study of anatomy develop. He claimed that the teaching of histology—that is, of normal as opposed to pathological histology—would more properly be taught in the anatomical department. He next referred to the paramount importance for the comprehension of anatomical fact, of a study of development, and pointed out that the enormous advances in recent years in the knowledge of the details of human development placed the teacher in an increasingly advantageous position for the demonstration of embryological facts. He concluded by outlining the courses in the different branches of the subject which he proposed to continue or to institute, and explained that his aim would be to combine in his instruction the scientific with the practical ideals of anatomical teaching.

Victoria Infirmary, Glasgow.

The fourth biennial dinner of the past and present resident assistants of this institution was held in Glasgow on Oct. 12th. Dr. R. Scott Frew, who presided, in proposing the toast of "The Victoria Infirmary," referred to the development of that institution during the 20 years of its existence, and continued: "We are watching with interest the development of a scheme of extended clinical teaching in Glasgow, whereby the vast clinical material of the Royal Infirmary, after lying almost untouched for a matter of 40 years, will at last become available to the students of the Glasgow Medical School. We hope and trust it is only a matter of time till the Victoria Infirmary will be brought into line with the Royal Infirmary and with the Western Infirmary, and we will then feel that our hospital is fulfilling its highest function as a teaching medical school. That time may be delayed, we may not all see it; but whether or not there is one thing we must never forget, and that is that the Victoria Infirmary taught us, and so is entitled to our life-long gratitude." Dr. A. Freeland Fergus, one of the medical directors to the infirmary, suitably replied. The toast of the "Resident Assistants, Past and Present" was proposed by Dr. D. O. MacGregor in a very happy and humorous speech. Dr. Ernest Watt of Hamilton and Dr. Thomas Archibald replied. The secretary, Mr. Grant Andrew, read letters and telegrams from former residents expressing regret at their absence and wishing their fellows an enjoyable evening. These good wishes were reciprocated to all former residents, whether at home or beyond the seas, and finally, on the proposal of Dr. A. N. McLellan, the health of the chairman was drunk with acclamation.

St. Andrew's Ambulance Association.

The Earl of Dalkeith presided last week at the twenty-sixth annual meeting of the St. Andrew's Ambulance Association held in Glasgow. From the annual report submitted it appeared that during the past year 7551 calls had been made on the wagons of the association, and the total number of patients conveyed since the formation of the association was now 100,123. In Glasgow alone the number of calls had been 4829 during the year. This represented an average of 13·23 turns out daily, or, leaving Sundays out of the calculation, 15·42. Out of the total 4829 turns out 2489 were to accidents and 2316 to cases of illness. In 174 cases the wagons were not required on arrival. Of the 2489 calls to accidents 778 were from police offices, houses, and stairs; 978 were street accidents; 236 from public works; 178 from docks and wharves; and 94 from railways and stations. Of these cases 2163 were taken to the Royal Infirmary, 953 to the Western Infirmary, 376 to the Victoria Infirmary, and 187 to the Maternity Hospital, the remainder being taken to their homes or other institutions. The wagons covered 21,269 miles during the year. During the past year also the number of certificates of proficiency issued was 5541, making a grand total since the formation of the association of 87,922. The number of medallions issued was 1882, a grand total of 26,109.

Northern Infirmary, Inverness: New Wards for Treatment of Phthisis.

A large gathering was present at the Northern Infirmary, Inverness, on Oct. 13th, on the occasion of the formal opening of new wards for the treatment of phthisical patients. Provost Gossip, chairman of directors, presided, and said that through the philanthropy of a gentleman now deceased—he meant the late Robert Lawrence—the directors had been enabled to complete the new wards. Last year they had made a change in the manner of collecting money for the upkeep of the infirmary. The change agreed upon was that they should have a house-to-house collection in Inverness instead of, as formerly, giving the public an opportunity of contributing in the different churches on a particular day. The change so far as it had gone had not been entirely disappointing. Dr. A. W. Mackay said that he thought he was safe in saying that they were amongst the first in the United Kingdom of general hospitals to provide separate phthisis wards for the treatment of that disease alone. Mrs. Gossip in a few words formally opened the door of the wards.

University of Aberdeen: Opening of the Winter Session.

The winter session at Aberdeen University commenced on Oct. 14th. The surgical class did not meet until the 15th, when the new professor, Dr. J. Marnoch, was formally introduced to the professoriate and the students. Professor W. Stephenson, as the senior professor, presided, and there was a large attendance of the University staff and of the students. Professor Stephenson said that unfortunately he had again to take the place of a principal. With regard to that, not the Government, perhaps, but undoubtedly the Secretary for Scotland, was taxing their patience very much in not appointing someone to the principalship. As to their new professor he had been appointed by His Majesty the King, and under special conditions which had not been previously imposed. That was to say, greater power had been transferred to the University Court to see that the instruction in surgery was not simply in systematic surgery, but that it is combined with clinical instruction. Professor Marnoch, who had a great reception, said that no higher honour could be bestowed on a graduate than to be elected to a chair in his own university. He succeeded a great master of the art of surgery, a master not merely of local but of world-wide reputation. The example set by him was a great stimulus, and it would be his endeavour to aim at the same high ideals and to carry on the work of the surgery department with efficiency. The amount of clinical material had largely increased of recent years, but something had to be done to enable the student to avail himself of those opportunities to a fuller extent. At present the time at his disposal for the purpose was too broken up, but some arrangement whereby more continuous time would be available for clinical study would be to the advantage of the school. Professor Marnoch then proceeded to deliver an address on Cancer of the Breast.

Oct. 20th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Royal College of Surgeons in Ireland: Presidential Address.

THE winter session of the College was opened on Friday, Oct. 15th, when the President, Mr. J. Lentaigne, presented the prizes of the previous session. Before distributing the prizes he delivered, however, an address in which he referred in weighty terms to the grave difficulties in which the school of the College was now involved, pointing out that these difficulties were not the results of fair competition—that is, of greater industry and more successful work on the part of rival institutions—but arose from a political situation which had induced the Government to complete an endowment by State of every other medical school in Ireland except the School of the College, "which had been carefully excluded from Government favours and left absolutely out in the cold." The scandalous injustice and unfairness of this, he said, were so patent that when the Bill for the formation and endowment of the new universities which were to take over and absorb the four existing medical schools in Ireland, outside Trinity College, Dublin, was being introduced, the then President of the College approached the Government with the fullest confidence that the grievances had only to be stated to be remedied, but all the trouble, loss of time, and expense had resulted in nothing for the College save a few highflown and complimentary phrases for the good work done.

The National University and the Students of the Catholic University Medical School.

A meeting of the past and present students of the Catholic University Medical School was held last week in the Gresham Hotel. The chair was occupied by Surgeon-Colonel F. G. Adye-Curran, whose varied experiences as an army medical officer (now retired), an assistant surgeon at St. Vincent's Hospital, and a former governor of the Apothecaries' Hall of Ireland (the oldest, by the way, of all our Irish medical corporations), give him all the qualifications which opportunity can well furnish towards the making of a reliable adviser to the medical student who has through no fault of his own become involved in a difficulty in the progress of his curriculum. The special object of the meeting in question was a discussion of the position of the medical students of the Catholic University Medical School with regard to the establishment of the new National University, in which it has necessarily been merged. After a certain amount of preliminary debate the following resolution was proposed and passed unanimously:—

We, the past and present students of the Catholic University Medical School, with non-University qualifications, respectfully approach the governing body of the National University and request that they will be good enough to take into consideration the position occupied by us at present, and kindly say what concessions they would feel disposed to grant in the event of our taking a medical or dental degree.

It is certain that the authorities of the new University will lend a kindly ear to this request, as some of them, at any rate, are sure to be in personal sympathy with the petitioners, but whether any practical step will follow I should be loth to prophesy. Those interested in the question are cordially invited to communicate with the secretary, "Conjoint Cecilians," Apothecaries' Hall, Dublin.

The Magdalen Asylum.

There is no institution in our Irish metropolis more deserving of public sympathy and support than the Magdalen Asylum, which is to have its special annual "collection made up" on Sunday next. That institution has now for nearly a quarter of a century been engaged in rescuing the fallen victims of sensuality or deceit, often aided, of course, by the incapacitating persuasions of want and drink. A special peculiarity of the victims of the "social evil" in Dublin is that in a country in which sexual morality in the female ranks so high, their fall from chastity is more calamitous and irreparable. The sisters in charge of the Magdalen Asylum exercise every endeavour to restore the self-respect and self-guiding powers to those fallen ones, and the result offers an interesting field of study for the medical observer. In few institutions can the influence of mind on body be more instructively studied. The morbid irritability, the alcoholic cravings, and the gloomy hopelessness of outlook, which had rendered these women absolutely unfit for the occupation of any responsible position, gradually disappear in presence of sane advice, kindly tendered, and firm control. The arrest of tuberculous invasion is another conspicuous result of these ministrations, so that there is sound medical reason for hoping that the rather heavy debt of the asylum will be wiped out by Sunday's collection.

Coöperation of Government and People in the Hygiene of National Schools.

Evidence of the general diffusion of hygienic education among the people of Ireland and of the combination of creeds and classes in the determination to utilise the same in the interests of future generations has just been offered by the published correspondence between the representatives of the Women's National Health Association and the representatives of the Irish hierarchy. A resolution was passed by the executive of the former body expressing their gratification at the fact that the school managers in connexion with the Roman Catholics, the Church of Ireland, the Presbyterian Church in Ireland, and the Methodist Church had expressed their readiness to make themselves responsible for one-half of the cost for heating and cleaning of national schools, in accordance with a scheme to be worked out in consultation with the Chief Secretary and in response to his suggestion made to the deputation of the Women's National Health Association of Ireland in May last. The executive, while pointing out that no promise of a Treasury grant could be obtained for the commissioners until the opening of the financial year next spring, pledged themselves, "through their branches, to coöperate with any local efforts that may be made to raise the required sum." They expressed the hope, accordingly, that the school managers throughout the country would show their earnestness "by themselves inaugurating the proposed scheme this winter by spending their proportion of the proposed funds during the winter months, and keep an account of the same, which can be hereafter presented to the Irish Government as an additional argument for obtaining from the Treasury the hoped-for grant of the half of the total amount." The immediate result was the receipt by Lady Aberdeen of a letter from the two (episcopal) secretaries of the general meeting of the Catholic archbishops and bishops of Ireland, thanking her for the resolution which had been passed, and stating that the bishops had already requested the Catholic managers of schools to take steps to find the necessary funds for that purpose. Many regard this incident as one of the most hopeful signs of the present times.

Trinity College, Dublin, and the Royal University of Ireland.

It is announced that the board of Trinity College, Dublin, is willing to consider applications from students of the Royal University of Ireland who may wish to receive allowance for their studies in that University, with the object of taking their degrees in the University of Dublin. Many applications of this character, it is stated, are now before the board.

Poor-law Reform.

Since the publication of the Report of the Royal Commission on the Poor-law, as well as the Report of the Irish Vice-Regal Commission on the same subject, a great deal of discussion has been taking place in Ireland. A conference of Irish women guardians discussed in Dublin last week (1) the public assistance committees *v.* boards of guardians; (2) the position of women on the public assistance committees; (3) the children; and (4) unmarried mothers. The conference was unanimous in proposing direct election to coöption. Strong exception was taken to the fact that if the public assistance authority was established the services of the majority of the 103 women now serving as guardians in Ireland would be dispensed with, as women are not eligible for seats on the county councils, and a resolution was passed urging that, in view of important changes likely to occur in Poor-law reform in Ireland, it is absolutely necessary that women should be eligible for seats on the borough and county councils. There was a feeling expressed that a more comprehensive scheme than any yet suggested should be devised before legislation took place in reference to children, and that to board out all children who came on the rates was impracticable. In reference to unmarried mothers, while all agreed that the workhouse was a most undesirable place for such cases, there were differences of opinion how otherwise they were to be dealt with. Opinion was unanimous that the recommendations of the Royal Commission in regard to the Feeble-Minded in this connexion should be carried into effect.

The Medical Session at Belfast.

Work began at the Royal Victoria Hospital, Belfast, for the present winter session (1909–10) on Oct. 14th, when the introductory address was given by Dr. Henry Hanna, assistant ophthalmic surgeon, to the students. In a racy lecture, Dr. Hanna dwelt upon the duty of students taking a practical interest in hospital work. He suggested that a ward should be opened for children and hoped that in the new University of Belfast there would be clinical examinations in ophthalmology. Lectures began at Queen's College on the same day. The lectures in the Arts Faculty of the University will not start until nexth month.

Oct. 19th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Naval Boards of Health.

THE *Journal Officiel* has recently published a circular issued by the Under-Secretary of State for the Navy relative to the establishment of boards of health in the naval ports. The chief board of health will be located in Paris at the Ministry of Marine and will comprise four civilian members, selected by the Under-Secretary of State, and four naval members, including the inspector-general of the Service de Santé and the pharmaceutical chemist in charge of the analytical laboratory of the central store department of the navy. The chief board of health is acting as a commission of naval hygiene and epidemiology or as a superintending water board. The local boards of health in each port are composed of eight members, including the medical director-general of the health department of the garrison and the medical man or medical men in charge of the bacteriological laboratory of the port. The *Journal Officiel* has also published directions relative to the examination and surveillance of drinking water supplies.

Sanitary Regulations for Canal Boats.

The Prefect of Police has recently issued a circular regulating traffic on the waterways in respect to sanitation. All boats entering the Department of the Seine and appearing to have come from an infected district will be visited by sanitary officials at places of which the masters will be informed—namely, at the last lock through which they pass before entering the department. The masters will have to present to the sanitary official their permit for the journey, and also the permit handed to them at the first sanitary visit after their arrival in France. There will also be delivered to them a permit to proceed, for which they must obtain an endorsement at certain places mentioned and which they must show to the officials when required. Moreover, no master may bring his boat to a wharf or discharge cargo in the Department of the Seine without supplying proof that he has undergone the requisite visits. In the event of one of the crew presenting doubtful symptoms of illness, the boats are to be provisionally isolated and all communication between them and the shore is to be prohibited until the arrival of the official medical officer.

Relations of Alcoholism to Crime.

At a meeting of the Academy of Medicine held on Oct. 5th M. Vallon, medical expert attached to the Law Courts, reported that he has had to examine 151 individuals charged with homicide or attempted homicide. In this number there were 7 malingerers and 9 persons who were wrongly supposed to be the subject of mental defects. Of the remaining 135 culprits, 120 were males and only 15 were females. With regard to their condition of health, the following conditions were noted: 1 case of pregnancy with mental derangement, 1 case of morphinomania, 2 cases of neurasthenia, 10 cases of delusions of persecution, 7 cases of various states of mental disorder, 11 cases of hysteria or epilepsy, 18 cases of various diseases either supposed or known to have an effect on the brain, 36 cases of mental defect, and 49 cases of alcoholism. M. Vallon said that the cases of alcoholism were more than one-third of the total number of persons charged with homicide. He added that the influence of alcohol as a contributory cause of homicide would be seen to be even greater if instead of a mere enumeration of accused individuals personally addicted to alcohol an examination were made of the antecedents of culprits classed under other headings. This would show that many epileptics and mental defectives were the children of alcoholic parents. M. Vallon went on to say that acts of extreme violence might be committed not only by habitual inebriates but also by persons in a state of occasional intoxication due to alcohol, in illustration of which he quoted two cases.

The French Congress of Surgery.

The Twenty-second French Congress of Surgery was held in Paris from Oct. 4th to 9th. The introductory meeting took place in the large amphitheatre of the Faculty of Medicine, under the presidency of M. Richelot, the subject of whose inaugural discourse was entitled "Simple Surgery." He commenced with a definition of the term, saying that simple surgery was not that which presented itself first to the mind, but that to which one was brought by experience. He considered that a display of instruments ought to be avoided and that the most successful surgeon was the one who made the best use of his fingers and of his good sense. Avoiding useless expenditure on elaborate appliances for securing asepsis, M. Richelot boiled his compresses in an ordinary domestic laundry boiler and immersed his instruments in hot water containing bicarbonate of sodium. With respect to the technique of operations, he thought that all the new forms of apparatus for the precisely regulated administration of chloroform presented no real advantage over the old method of administration on a compress in the hands of an assistant who understood how chloroform acted and knew what points ought to be attended to. In fact, he considered that surgical technique was very often overloaded with useless complications having their origin in an excessive desire on the part of surgeons for methods peculiar to themselves. M. Richelot then made a touching reference to the members of the association who had passed away in the course of the year. The principal question on the official programme was the surgery of the arteries. A discussion was introduced by M. Monod and M. Vauverts, and communications were made on this subject by M. Villar, M. Tuffier, M. Psaltoff, M. Doyen, M. Bégouin, M. Brunswic-le-Bihan, M. Amray, M. Reynès, M. Savariaud, M. Princeteau, M. Vidal, M. Tailhefer, M. de Fourmestrame, M. Delagenière, M. Jordan, M. Giordano, and M. Lardennois.

Oct. 18th.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

Proposed General Strike of Resident Medical Officers of Hospitals.

A RATHER unusual threat has been pronounced by the union of hospital medical officers in Vienna as a last resort for the removal of long-standing grievances. The union has notified the managing boards of all the State hospitals in the city that unless certain reforms are actually begun before Nov. 1st the hospital staffs will tender their resignation on this date, with the prospect that four weeks later the hospital wards would be left with only the professors and their two chief assistants to attend many hundreds of patients. This uncompromising attitude has been adopted in consequence of the evident uselessness of petitions of a more conventional nature. As a rule, in the hospitals there are 30 beds assigned to each "Secundararzt," or house physician, who is responsible for the proper care of the patients. He has not only to write down personally the history and the course of the disease, but also to make all examinations, to keep observation on the food, and to do all the administrative writing required in the wards to which he is attached. This, of course, necessitates a good deal of work of a non-medical nature, which is very much resented by the young medical man, as it takes up so much of his time and interferes with attention to the more scientific side of the daily duties. The remuneration also is not satisfactory, being only £55 for the "Secundararzt" and from £75 to £90 for the assistant, with lodging, but only with partial board. A few years ago the conditions of medical service in hospitals were worse still, but the salaries had to be raised to their present level on

account of the dearth of applicants for such posts. Several recent occurrences amongst the staff of one of our largest hospitals showed the necessity of insurance against accident and claims for malpractice, but the payment of the insurance fees was refused by the hospital boards. Finally, on the occasion of some disputes between medical and administrative officers the authorities decided in favour of the latter, which brought about such a feeling of irritation amongst the medical men that a sort of ultimatum was tendered. The medical officers ask for (1) a clear decision as to the rights and duties of the medical and the administrative staffs; (2) permission for a medical officer to change his ward in the same hospital after three months; (3) the appointment of clinical clerks to do some of the writing; (4) full board for the whole medical staff; and (5) obligatory insurance by the board of the medical officers against claims arising out of their hospital work and against accidents whilst in employment therein. As all these demands involve a considerable expenditure of public money, the position of the boards is a rather difficult one, and they are trying to come to terms by negotiation. Full preparations have, however, been made for the strike, and hardly any medical men would be found ready to replace those who refuse to continue at work under the present conditions.

The Difficulties at the Ophthalmological Clinic.

Since the death of the celebrated Professor Schnabel the clinic which was under his control has been conducted temporarily by the last of his assistants, and the appointment of his successor has given much more trouble than was expected. The senate of the Medical Faculty in Vienna having recommended Professor Hess of Würzburg, Professor Dimmer of Graz, and another gentleman as three suitable persons from whom a final selection might be made great pressure was exerted upon the Ministry of Education to prevent the appointment of the professor from Germany (i.e., Professor Hess) on so-called patriotic grounds. Academic influence was strong enough to overcome these obstacles, and Professor Hess was asked to take over the duties. He came to Vienna, inspected the clinic, and declined the offered position. He has in Würzburg a palace of a clinic, with the very latest equipments required for modern research, whereas he found in Vienna an antiquated ward, without sufficient space for out-patients. Professor Dimmer in Graz then received an invitation, and he also required increased accommodation for the treatment of patients and for research work, but the lack of funds prevented his modest requests from being complied with. In a few years there will be a new clinic which will be a model institution, but this long period of waiting and suspense would be intolerable to an ophthalmologist of high standing, so Professor Dimmer also refused. As the present situation cannot continue, either the Ministry will have to find the necessary money or it will have to accept a man of secondary scientific importance, an alternative which would be more detrimental to the University than the bureaucracy seems to imagine.

Diagnosis of Cerebral Tumours by Means of X Rays.

At a recent meeting of the Neurological Society Dr. Schüller read a paper on the Diagnostic Value of X Rays in Tumours of the Brain. He said that if a tumour of the brain contained salts of lime its shadow might be visible on the screen or plate, but this was comparatively infrequent. More assistance in this respect might be obtained from certain secondary changes produced by the neoplasm—namely, (1) the destruction of the osseous wall of the skull, either local or general; (2) the dilatation of the venous channels of the diploe, which became so marked that they possessed a diagnostic value; (3) the increased distinctness of the sutures; and (4) the very characteristic increase of the thickness of skull. This thickening was due either to concentric hyperostosis of the walls, or to long excrescences on the inside of the skull. Sometimes the shape of the skull was changed by the new growth. Dr. Schüller said that he had examined 240 cases and has succeeded in making a positive diagnosis in 150 of them; it was remarkable that amongst the 150 positive cases there were 54 with involvement of the hypophysis. He therefore considered that X ray examination of cases of intracranial mischief was indispensable.

Oct. 18th.

NOTES FROM INDIA.

(FROM OUR OWN CORRESPONDENTS.)

The Prevalence of Plague.

THE plague returns for the week ending Sept. 11th show 2096 deaths compared with 1952 in the week preceding. Bombay Presidency reported 617, Madras 140, Bengal 37, the United Provinces 429, the Punjab 47, Burma 49, the Central Provinces 434, Mysore State 176, Central India 114, and Rajputana 3. After a visitation lasting for more than a decade it has to be confessed that human effort has had little tangible effect on the plague epidemic. In the Punjab last year the death-rate from plague was only slightly higher than that from small-pox, and as this year the returns have been even more favourable there is good ground for hope that the disease is gradually dying out. The plague staff is still as zealous as ever, and the people are generally about as indifferent as they have always been. In a recent report dealing with Northern India, Sir Louis Dane, Lieutenant-Governor of the Punjab, is of opinion that the decrease in mortality can neither be attributed to inoculation, nor to the destruction of rats, nor to the absence of rainfall last autumn. In fact, human agency has had very little to do with it, and all that can be said is that there is hope of the scourge being gradually removed from the land. But although no very positive results can be attributed to preventive measures, those measures have been amply justified. It may not be possible to prove by statistics that preventive work has sensibly reduced mortality, but it is quite certain that many cases have occurred in which the efforts of the plague staff have limited the area infected and brought help and encouragement to the suffering people. Moreover, though among an ignorant and prejudiced peasantry it was impossible to carry out scientific preventive measures effectively, a start has been made in the sanitary education of the masses that may be of incalculable value as time goes on.

The Health of Bombay.

A warm fine break in the weather at this time of year, which drives the poorer classes out of their unwholesome dwellings at night to sleep in the open air, always leads to a diminution in prevalence of plague. Consequently the feature of the health returns in Bombay (city) this week is a lower rate of plague deaths, and the drop in the mortality from that cause amounts to no less than two-thirds of last week's total. Only 9 deaths were registered—a figure which is phenomenal for the time of year. Last year in the corresponding week plague accounted for 25 deaths, the mean for five years is 36, and the figure returned a week ago was 27. So decided an improvement makes the prospect of plague dying out altogether at least a hopeful one. Small-pox deaths last week were *nil*, but cholera is still about, the deaths last week, including several imported cases, being 22. The total mortality from all causes for the week was 591, as against 602 in the previous week, 581 in the corresponding week of 1908, and a quinquennial mean of 671.

Malarial Fevers in the Punjab.

During the last four months of 1908 460,000 deaths from fever were reported in the Punjab, and it is estimated that a quarter of the total population of the province suffered from malaria. Strenuous efforts were made to distribute quinine among the people, and where a regular system of weekly or bi-weekly dosage was possible the results were most satisfactory, almost complete immunity from fever being secured. The epidemic disorganised the whole province, and the Lieutenant-Governor in a recent note urges the cardinal importance of being well prepared to meet a similar calamity in future. Plans prepared with forethought and the organisation of an effective quinine-distributing agency may be the means of saving thousands of lives.

The Malarial Conference.

The following officers from the Central Provinces will attend the Malaria Conference at Simla next month: Mr. Fox-Strangeways, C.S.; Major W. H. Kenrick, I.M.S., Civil Surgeon, Raipur; and Rao Bahadur Madholkar.

An Indian Regiment for Dacca.

Lord Morley has sanctioned the location of half a battalion of an Indian regiment at Dacca and the strengthening of the

military police. The construction of cantonments begins forthwith.

The Indian Medical Service.

In a recent leading article the *Pioneer* thinks that the popularity of the Indian Medical Service is steadily on the wane, and that candidates are not forthcoming in anything like the numbers that were formerly recorded. At the last examination for commissions there were 48 competitors for 21 vacancies, a proportion of something over 2 to 1; whereas not so many years ago the figures were 7 or 8 to 1. At the same time there is far more desire shown to enter the Royal Army Medical Corps, for at the same examination 54 candidates competed for 20 commissions, the old proportion being at the rate of about 3 competitors for every 2 vacancies. The proposal of the Secretary of State to introduce independent practitioners into India and to allot to them some of the professional appointments and civil surgeoncies has been adversely criticised in the service papers at home, and this suggested introduction has doubtless had its effect upon the students in the various colleges. They see that a career in India no longer offers the chance of lucrative practice apart from professional distinction, and that there will be few compensations in the future for continuous service in a tropical climate. On the other hand, the Royal Army Medical Corps is in high favour. At a recent prize distribution of the Royal Army Medical College Sir Frederick Treves remarked that the probationers were entering the service at a very auspicious moment. Addressing them he said: "You know, perhaps, that the Army Medical Department has passed through a period of low water; you enter it on the crest of the flood tide, and on that tide you will be carried to what, I hope, will be fortune. ..... I do not hesitate to say that there is no branch of the service better paid than the Army Medical Service." Sir Frederick Treves linked the two services together when dwelling upon the opportunities offered for advancing and elaborating sanitary science, and for investigations into tropical diseases. The Government of India have yet to make a final pronouncement in respect of independent practitioners, and they should note the change that has taken place in the matter of competition for the Indian Medical Service in this country.

Service Notes.

Major F. L. Blenkinsop, I.M.S., has been appointed staff surgeon, Secunderabad. Captain W. H. Cazaly, I.M.S., on reverting to military duty, has been appointed to the permanent medical charge of the 125th Napier's Rifles. Captain H. C. Buckley, I.M.S., has been appointed to the substantive medical charge of the 17th Infantry. Captain E. A. Roberts, I.M.S., has been appointed to the 67th Punjabis.

Sept. 15th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Race Suicide: Infanticide in Sydney.

THE city coroner for Sydney has lately expressed himself strongly on the prevalence of infanticide in Sydney, and has made a number of recommendations to mitigate the evil. He advocates an amendment of the law to enable officials to trace all births and the cause of death. A tax on bachelors is proposed and a bonus to parents of large families. The limitation of families is almost confined to parents in easy circumstances. He continues: "As a rule the avoidance of the cares of maternity, the excessive desire for social gaiety, and the mode of life generally (including the diet of parents) are, I believe, the chief causes of small families. On the other hand, the poorer classes, living on plainer diet and leading a more natural life in all respects, continue to have large families. It would seem that the humbler the walk in life the more prolific are the parents. If the present practices continue the whole political control of the State must fall into the hands of the working classes. In my opinion, no State can be prosperous in the widest acceptance of the term if ruled by one class."

Talbot Milk Institute.

The first annual meeting of the Talbot Milk Institute was held in the Melbourne town hall on August 18th, Lady Gibson Carmichael presiding. Dr. A. Jeffreys Wood described the plan of the work, which was modelled on that of the *Gouttes de Lait* in France. The milk was produced by tuberculin-tested cows, and was at once cooled to 40° F. and despatched to the Willsmere milk depôt for pasteurisation. Owing to the difficulty of keeping any milk sound in the hottest weather the institute had supplied small ice-chests at a cost of 7*d.* per week to those houses in which the milk was being used. Two nurses were employed in house visitation, and sick children were attended twice a day. The price paid by the institute for pasteurised milk, bottled and sealed with paraffin-wax and delivered, was 4*d.* per pint, while it was sold at 2*d.* per pint. About 300 infants had been supplied during the summer, and of these only eight had died. The Lord Mayor moved the adoption of the balance-sheet and said that the city council would fully realise its responsibility in affording financial assistance.

Federal Quarantine.

Some dissatisfaction has been expressed with the inspection of oversea mail steamers under the new Quarantine Act. The matter was mentioned in the Federal Senate in connexion with an alleged delay at Freemantle. Dr. Wollaston (Comptroller of Federal Customs) says that as there is only to be one inspection it is necessary to make it absolutely thorough. The fear that mail liners arriving at night would be compelled to wait till next morning for clearance was unfounded. Arrangements could be made to clear them at once.

Opium Smoking.

The Comptroller of Federal Customs recently suggested an increased tax on opium and the devotion of the proceeds to deporting confirmed Chinese smokers back to their native land. The Chinese Empire Reform Association has addressed a temperate letter to the Minister for Customs pointing out that such a procedure would be futile and that an increase of tax means merely an encouragement to smugglers and the extortion of an increased price from the miserable consumer whose plight is only intensified.

Alfred Hospital, Melbourne.

The annual meeting of subscribers to this hospital was held in Melbourne on July 30th. The report showed that 2421 in-patients and 6261 out-patients were treated during the year, besides 949 casualties. These figures are much larger than in any previous year. The death-rate was 8·84 per cent., which was much lower than that for many years. Financially, the position was unsatisfactory. The loss of revenue from "paying" in-patients (now abolished) was £345. A fourth resident medical officer had been necessary to meet the increased work. The chairman said a rebuilding scheme was under consideration and would necessitate an expenditure of £20,000.

Vital Statistics.

The Victorian Government statist in the last year-book estimates the population of Victoria at 1,273,353, made up of 640,180 males and 633,173 females. The increase for the year was 15,173. The feature of the figures is the great increase relatively of females, it being estimated that there are 99 females to every 100 males—a much greater proportion than in any other State. Melbourne is increasing her population at the expense of country districts. The total number of Chinese is only 6815, and of coloured persons other than Chinese, 1273.

New Sanatorium.

On July 1st Sir P. Sydney Jones opened the R. T. Hall Sanatorium for Consumptives at Hazelbrook, N.S.W. The present building accommodates only 16 patients, but provision will eventually be made for 60 beds. The sanatorium has been constructed under the will of the late Mr. R. T. Hall, himself a sufferer from the disease, who obtained such benefit from open-air treatment that he desired to afford others the opportunity to experience similar treatment.

Medical Inspection of School Children.

The Victorian Department of Education has provided under a new Education Act for the introduction of medical inspection of school children. Three medical inspectors are to be appointed at salaries of £550, £450, and £400. An advisory committee has been nominated, consisting of the President of the British Medical Association, the President of the Women's Medical Association, Dr. W. P. Norris, Dr. Burnett Ham, and Dr. J. W. Barrett, to assist the Director of

Education in formulating a scheme for selecting applicants and drawing up a schedule of duties. It is probable that one at least of the appointments will be given to a medical woman.

Medical Temperance Association.

The Victorian branch of the British Medical Temperance Association, though a very small body numerically, has become very active in propaganda work. A series of public lectures has been arranged on alcohol. The lecturers include Professor W. A. Osborne, professor of physiology in the University of Melbourne; Mr. W. Moore and Mr. T. R. Stirling, indoor surgeons to the Melbourne Hospital; and Dr. J. F. Wilkinson, demonstrator of physiological chemistry in the University of Melbourne.

Memorial to Dr. J. Jamieson.

Dr. J. Jamieson, who recently resigned the lectureship in medicine in the University of Melbourne, has been made the recipient of a presentation at the instance of a number of past and present students. Sir John Madden, chief justice of Victoria and Chancellor of the University, handed to Dr. Jamieson a cheque for £135, the gift taking this form at the request of the recipient. Dr. Jamieson suitably and feelingly acknowledged the gift and said he proposed that the money should be handed to the University to be devoted to the foundation of an annual prize in clinical medicine to be known as the Jamieson prize.

Sept. 14th.

Obituary.

SIR ARTHUR MITCHELL, K.C.B., M.D., LL.D. ABERD.

Sir Arthur Mitchell, who died at his residence in Drummond-place, Edinburgh, on Oct. 12th, was in many respects a man of unusual attainments, and had for more than 50 years occupied a prominent position among the medical profession of the Scottish capital. He was born in January, 1826, his father being Mr. George Mitchell, C.E. His school education was received in Elgin and he afterwards attended the classes in arts and medicine in the University of Aberdeen, where he graduated as M.A. in 1845 and M.D. in 1848. At the outset of his career he gained additional experience by visits to the medical schools of Paris, Berlin, and Vienna, after which he engaged for a time in private practice. Lunacy was the branch of medicine to which he specially devoted himself, after which it might be said that antiquarian research was his favourite pursuit. In 1857 he received the appointment of Deputy Commissioner in Lunacy for Scotland, and during his tenure of this office he became Morison lecturer on mental diseases to the Royal College of Physicians of Edinburgh. He also in 1864 published a treatise on the Insane in Private Dwellings. His predecessor as Morison lecturer was Dr. William Seller, who died in April, 1869. Sir Arthur Mitchell was appointed to the vacancy in the following month, as mentioned in our columns at the time. The subjects of his final discourses, delivered in March, 1872, were the curability of insanity, the medico-legal relations of insanity to will-making, and the effect of consanguineous marriages on the offspring. As Deputy Commissioner in Lunacy he had for his official superior Dr. W. A. F. Browne, whom he succeeded as Commissioner in May, 1870, retaining the appointment until 1895. From 1880 to 1881 he was a member of the Commission on Criminal Lunacy in England, and from 1888 to 1891 he was chairman of the Commission on Lunacy Administration in Ireland. His historical and antiquarian work involved a great amount of original research and special knowledge. A prominent member of the Society of Antiquarians of Scotland, he was Rhind lecturer on archæology from 1876 to 1878, professor of ancient history to the Royal Scottish Academy, president of the Early Scottish Text Society, vice-president of the Scottish Historical Society, vice-president of the Scottish Meteorological Society, and a member of the Universities (Scotland) Commission. In addition to the treatise already mentioned his published works included two on antiquarian or historical subjects, entitled "The Past in the Present; What is Civilisation?" and "List of Travels in Scotland, 1296 to 1900." In 1875 he received the distinction of LL.D. from the University of Aberdeen, and in 1887 he was created K.C.B. Sir Arthur Mitchell was a man of charming personality, who readily commanded the affection as well as the admiration and esteem of those with whom he was brought into personal relations. In 1855 he married Miss Margaret Houston of Tullochgriban, Strathspey, who died in 1904, leaving a son.

JOHN HERBERT WELLS, M.B., B.S. LOND., M.R.C.S. ENG., L.R.C.P. LOND.

ON Oct. 16th, at Ditchling, a village of the Sussex downlands, John Herbert Wells was released from a long and painful illness which he had borne with consummate bravery for nearly 18 months, the day of his death being the eve of his thirtieth birthday. He is not the first man by many to lose his life through taking the hazard of his calling and before the years had been granted him to fulfil his capacities for the service of science, and he would have been the last to have desired undue praise for his uncomplaining sacrifice, but his career is worthy of record, for it was that of a man who brought real advancement to more than one branch of English medicine by his thorough efficiency of hand and mind and by the enthusiasm of his eager spirit.

John Wells was born at Leicester in 1879, his father being Mr. William Wells, of that town, who survives him, and he was educated at the Wyggeston Hospital High School. His one ambition was always to "be a doctor," and before leaving school in his eighteenth year he had passed his London Matriculation and Preliminary Scientific Examinations. Coming up to London he gained simultaneously the Huxley scholarship at Charing Cross Hospital and a natural science scholarship at St. Mary's. He chose the latter, chiefly because there were old schoolfellows amongst the St. Mary's students, and was soon appointed in due succession demonstrator of physiology, practical histology, and pathology. Whilst occupying the first of these posts he attracted the attention of Dr. A. D. Waller, the lecturer in physiology, by his powers of steady work and qualities of mind, and the two became associated in studying the action of anæsthetics upon nerve in the microscopic gas chamber and the visible effects of ether and chloroform upon nerve fibres—work which was subsequently published in the reports of the British Association. Of their further joint labours Dr. Waller has written to us: "In 1902–3 we worked continuously together on the action of anæsthetics. He carried out successfully a series of laborious estimations of the amount of chloroform present in the blood of anæsthetised animals, the results of which have been confirmed by those of subsequent observers. I have now before me his report to the British Medical Association giving 18 mgs. per 100 grammes as the anæsthetic amount of chloroform in the blood and 34 mgs. as the lethal amount. The latest experiments of Buckmaster and Gardner give on the same kind of animals values of 20 and 40 mgs. respectively." Dr. Waller adds, after paying a warm tribute to Wells's character, "He was a good and faithful worker who would certainly have taken high rank as a pathologist if he had been spared." But after qualifying M.R.C.S. Eng., L.R.C.P. Lond. in 1903, and gaining the clinical medicine prize at his hospital he turned his attention to the wards, and in the next year, having served as house physician to Dr. Sidney P. Phillips, he graduated M.B., B.S., at the University of London with honours in medicine and pathology. He also gained a silver medal in clinical medicine at St. Mary's, having been adjudged *proxime accessit* for the Cheadle gold medal.

The next two years of his medical life he spent as assistant to Dr. G. N. Caley at Ealing, and of his work there Dr. Caley has sent us a note which we print below. He was extremely successful with his patients, but a man of Wells's fibre could not remain long detached from the laboratory, and in 1906 he joined the department of therapeutic inoculation at St. Mary's Hospital, and speedily showed such a mastery of the principles and of the technique which Sir Almroth Wright was then elaborating that he became one of the most trusted members of a very hard-working band. Like all of them, he never spared himself at his work, which he was accustomed to extend far into the night, performing the prolonged and patient investigations that were necessary for the establishment of sound methods of vaccine therapy, and there

can be no question that this invaluable branch of treatment was advanced materially by his labour. He used humorously to pride himself on not being a genius, but he was always thorough and always level-headed, and there was no more popular man in the laboratory. Whilst establishing a private practice which grew rapidly, he took special delight in welcoming his friends to the home circle which he had established by his marriage in August, 1906, with Olive Berenice, daughter of the late Mr. Joseph H. Old of St. Merryn, Cornwall. A son was born to them in the following year and a daughter in 1908, soon after he contracted his fatal illness in the laboratory. This occurred about Whitsuntide, when he suddenly developed symptoms of a general bacterial infection whilst away on a holiday. He was able to return to work, but looked poorly, and the diagnosis of his condition was obscure. The bacteria with which he had been working were those of Malta fever, tubercle, streptococcus, typhoid, and glanders, and it was only too plain that he had received an accidental infection with one of these organisms. Chiefly from observations of his opsonic index it became almost certain that it was the latter, although he had no localising symptoms for some little time. By the end of July a deep swelling could be felt in the calf of his leg and he began to suffer from paroxysmal abdominal pain which suggested a focus of infection in the spleen. He was sent into a nursing home to be treated with inoculations of a vaccine prepared from bacillus mallei controlled by daily observations of his opsonic index. Under this treatment his symptoms nearly cleared up; he was very hopeful of recovery and he was able to go down to the country in the autumn. But the extra amount of walking that he then did brought back pain and swelling in his leg, and he had to return home to lie up again before Christmas, since when he has kept his bed except for a few occasional hours. The swelling in the leg was opened in February, and from some grumous material that was emptied the glanders bacillus was grown in pure culture. The wound soon closed, but was followed by great constitutional disturbance, with severe neuralgia in the groin and shoulder and renewed splenic pain, and these symptoms were not markedly affected by continued vaccine treatment. Last May he showed a great desire to be taken into the country, and with the sanction of his advisers he was moved to Ditchling, near Brighton, where he has since remained. For the last two months at least it has been apparent to his friends that he was a dying man, and as the end drew near he prepared for it with the calm courage that has never failed him. A fortnight ago the infection became generalised, foci appearing in the limbs and face, and though he suffered much less pain the final scene could only be regarded as a merciful release. He was buried on Oct. 18th in the presence of a considerable gathering of his hospital colleagues, including the chief for whom his devotion remained unshaken, and who had done everything that man could do to alleviate his distress. Dr. W. H. Willcox, Dr. H. A. Des Vœux, and Mr. H. S. Collier, who had also attended him during his illness, were all present, and a large number of beautiful wreaths were sent from the members of St. Mary's Hospital staff and many of his other friends who were unable to leave London to follow him to his rest.

We have spoken of the capacity for work which John Wells displayed. There remains a word to say about his deeper qualities, and here we fall back upon the words of a great personal friend. "There never lived," he writes, "a kinder or sweeter-minded man, nor ever passed away a braver spirit. His natural nobility underwent a wonderful development beneath a discipline that would have broken many men. Those who were able to spend with him some hours of his long vigil, even when he must have known the shades to be gathering round him, could hardly realise that he was in the grip of a mortal disease. On the days when he was free from pain he was the old bright companion who had never quite lost his boyhood, and he might have been cheerfully nursing a sprained ankle. His patience never failed, and he showed not only a charming courtesy down to the hour of his death to all who had dealings with him, but he took always a shrewd and kindly interest in the happiness of his friends. None who watched his illness can ever forget its example. He never looked back once nor regretted that he had undertaken the work which had hurt him. Had he recovered he would certainly have returned to it, for at first he often discussed plans for future research." For the first 12 months of his illness he read very widely, philosophical works having a special attraction for a mind of considerable general culture. Towards the end he turned less to books, but he never wearied of his friends, to whose visits he used to look forward eagerly. His greatest happiness lay in the devoted attention of his wife who could rarely be persuaded to leave his bedside, and to that mourning lady, as to his parents, such sympathy has gone out as can hardly be clothed in words. In the time to come they will surely find some comfort in the remembrance that though the loss of John Wells has brought them the full measure of the sorrow of man yet in the dignity of his death there was vigorous evidence of human splendour.

Dr. Guthrie N. Caley writes: "During the time that he was engaged in medical practice in this neighbourhood Dr. Wells, by his genial and cheerful disposition and by his ever-ready sympathy, made many friends who deeply deplore his early death. His professional ability soon gained him a good reputation, and his high integrity and upright manly character assured him the confidence of those entrusted to his professional care. His friends will remember him with affection, and his profession will hold him in honour as one who at a time when his life was rich with promise laid it down with manly fortitude as the penalty of his scientific zeal."

ROBERT CREWDSON BENINGTON, M.D., B.S. DURH., M.R.C.S. ENG., L.R.C.P. LOND., L.S.A.

Dr. Robert Crewdson Benington died suddenly from heart failure on August 26th while acting as substitute for a medical practitioner at Gillingham, Kent. His sudden death, which appears to have escaped the notice of his many friends, probably owing to the season at which it occurred, ends a chequered and remarkable career.

Dr. Benington was a student of St. Thomas's Hospital and acted as house physician after becoming a Member of the Royal College of Surgeons of England in 1879. In the earlier years of his professional life he intended to devote himself to gynæcology, and held the post of clinical assistant to the Hospital for Women, Soho-square, and afterwards proceeded to study at the College of Medicine, Newcastle-on-Tyne, and took the M.D. Durh. in 1892, in which year he was a vice-president of the British Gynæcological Society and contributed several papers to the Transactions. He acted as tutor and demonstrator of anatomy in the Medical College of Durham University. After leaving Durham he settled down to practice, but either because of the uncongeniality of his surroundings or a restlessness in his blood he never remained for long in one place. At one time, so we have been informed, he inherited a considerable fortune and abandoned practice. In more recent years he had held medical appointments in South Africa, ascended the Amazon as a ship surgeon, and travelled in a medical capacity in many parts of the world. In his later years he aged very rapidly, but a small competency which remained to him and the intervention of some devoted friends allowed him to devote almost the whole of his time to anthropological researches which have been so abruptly terminated by his sudden death.

Some 12 months ago he was most industriously carrying out, under the direction of Professor Karl Pearson, an elaborate and accurate series of measurements of skulls in the Museum of the Royal College of Surgeons of England and in the Natural History Museum, South Kensington. At a period of life—he died in his fifty-seventh year—when most men shrink from undertaking fresh enterprises, he became an ardent disciple of the modern biometrical school, and sought to apply the new methods to the problems of anthropology in general and craniology in particular. At the moment of his death he had accumulated a vast store of measurements and tracings, which were to form the subject-matter of important papers he intended to prepare, in conjunction with Professor Pearson, during the present winter. He was not only a very modest worker and gentleman, but also a very accurate and orderly one, so that there is little fear of his work being lost, although he has not lived to see the results of his labour published and appreciated.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The death of the following eminent foreign medical man is announced:—Dr. Kornel Chyzer, head of the medical department of the Ministry of the Interior, Budapest, at the age of 73 years.

Medical News.

FOREIGN UNIVERSITY INTELLIGENCE.—*Baltimore* (*University of Maryland*): Dr. Joseph W. Holland has been appointed Assistant Professor of Anatomy.—*Berlin:* Dr. Ernst Salkowski, who has been for many years at the head of the chemical department of the University Pathological Institute, has been appointed to an Honorary Professorship.—*Bologna:* Dr. Ulisse Gardini has been recognised as *privat-docent* of Urology.—*Cornell:* Dr. J. A. Hartwell has been promoted to the chair of Surgery. Dr. John R. Murlin has been appointed Assistant Professor of Physiology, and Dr. Silas P. Beebe, Assistant Professor of Experimental Therapeutics.—*Cracow:* Dr. Stefan Horoszkiewicz, *privat-docent* of forensic medicine, has been appointed Extraordinary Professor. Dr. Leo Glinski has been appointed Extraordinary Professor of Pathological Anatomy and Dr. Wenzel Chlumsky Extraordinary Professor of Surgery.—*Florence:* Dr. Guido Marchetti has been recognised as *privat-docent* of Internal Pathology, and Dr. Guglielmo Foà as *privat-docent* of Hygiene.—*Genoa:* Dr. Mario Vittorio Maragliano has been recognised as *privat-docent* of Internal Pathology and Dr. Umberto Parodi as *privat-docent* of Pathological Anatomy.—*Königsberg:* Dr. Adolf Stein has been recognised as *privat-docent* of Odontology.—*Lemberg:* Dr. Johann Masurkiewicz has been recognised as *privat-docent* of Psychiatry. Dr. Bednarsky and Dr. A. Szuleslawski, *privat-docenten* of Ophthalmology, have been granted the title of Extraordinary Professor.—*Naples:* Dr. Pasquale Castiglione-Morelli has been recognised as *privat-docent* of Topographical Anatomy and Operative Medicine and Dr. Vincenzo-Patricelli, as *privat-docent* of Internal Pathology. Dr. Reinhard Dohrn has been appointed to succeed his father as Director of the Zoological Station.—*Padua:* Dr. Ettore Greggio has been recognised as *privat-docent* of External Pathology and Dr. Alberto Graziani as *privat-docent* of Hygiene.—*Palermo:* Dr. Tebaldo Cimino has been recognised as *privat-docent* of Urology and Dr. Eduard Carapelle as *privat-docent* of Hygiene.—*Pisa:* Dr. Guido Sotti has been recognised as *privat-docent* of Pathological Anatomy.—*Prague* (*German University*): Dr. Eduard Pietrzikowski, *privat-docent* of Surgery, has been appointed to an Extraordinary Professorship.—*Rome:* Dr. Andrea Conti has been recognised as *privat-docent* of Internal Pathology.—*Strasburg:* Dr. Hans Dietlen has been recognised as *privat-docent* of Medicine.—*Turin:* Dr. Giuseppe Serafini has been recognised as *privat-docent* of External Pathology and Dr. Adriano Ceradini as *privat-docent* of Bacteriology.—*Utrecht:* Dr. A. J. P. Van den Brock of Amsterdam has been appointed to the chair of Anatomy.

THE GUILD OF ST. LUKE.—The annual medical service, under the auspices of the Guild of St. Luke, was held at St. Paul's Cathedral on Wednesday evening. The cathedral was well filled, a number of medical men in academic costume after entering in procession being grouped in the centre of the nave. The music was well rendered by a voluntary choir, under the direction of Mr. W. G. Ross, F.R.C.O., who was at the organ, and Mr. S. Herbert Smith. The processional hymns were "Blessed City, Heavenly Salem," and "The God of Abraham Praise." The anthem was Mendelssohn's "Lord, Thou Above art God," and the hymns before and after the sermon were, "O Strength and Stay Upholding all Creation" and a special Guild hymn, "Thou, Whom High in Heavenly Places." The preacher was the Rev. Fr. Waggett, S.S.J.E., who delivered a vigorous sermon from the text of St. Luke v. 12, 13. The offertory, after paying the expenses of the service, was devoted to the College of St. Luke.

A COMPENSATION CLAIM FOR A FATAL LIGHTNING STROKE.—A somewhat singular application under the Workmen's Compensation Act, 1906, was made at the Brighton county court on Oct. 14th. The widow of a farm labourer who was killed by lightning on July 7th applied for compensation from the tenant of the farm. At the time of the thunderstorm the man was engaged cabbage-planting on an exposed part of the Southdowns, near Brighton, and for the applicant it was held that such planting had to be done when the ground was wet or the plants would die, that the soil was naturally damp and heavy, affording an attraction to lightning, and that while crouching down seeking what little shelter there was the man would be a great attraction to the electric fluid. His honour Judge Scully held that it had not been shown that the man was subject to any special risk more than anybody else who might have happened to be out in the storm; and to say that he was running exceptional risk seemed to be going beyond the bounds of common-sense and reason. His honour found for the respondent with costs.

MEDICAL SERVICE AT BRIGHTON.—The annual service for the medical men and nurses of Brighton and Hove took place on Sunday evening last at the parish church, Brighton. The church was crowded. The special preacher was the Bishop of Lewes and Vicar of Hove, Dr. Hedley Burrows, and he based his sermon on healing on St. Luke xiii., 17. A portion of the offertory goes to the medical charities of the towns.

THE SPREAD OF ANTHRAX.—At an inquest held last week at Warrington upon a workman who had died from anthrax it was given in evidence that the usual washing appliances for the prevention of hide infection were provided at the tannery where the deceased man worked, but that the workmen generally failed to use them. The coroner said that it was desirable for legislation to be passed making the use of such appliances compulsory upon such workers.

A MEDAL FOR A MEDICAL MAN.—At a meeting of the Camberwell borough council held on Wednesday the Mayor (Councillor W. S. T. Martin), in reviewing the past municipal year in the borough, remarked that during his time in office he had had the great pleasure of conferring the Royal Humane Society's medal for saving life from drowning on Mr. C. A. Sampson of Camberwell and Frederick Devlin, the latter being a boy who had learnt to swim in the municipal baths.

LITERARY INTELLIGENCE.—Messrs. Simpkin, Marshall, Hamilton, Kent, and Co., Limited, will shortly publish the first number of a new review, to be known as "The Local Government Review," which will deal with all the topics affecting county, municipal, district, and parish government and the administration of the Poor-law.—A new edition of "Manual of Military Ophthalmology," by Colonel M. T. Yarr, R.A.M.C., has been published by Messrs. Cassell and Company, Limited.

THE ASSOCIATION OF CERTIFICATED DISPENSERS.—A special general meeting of this association will be held on Monday, Nov. 1st, at 8 P.M., in the Apothecaries' Hall, Blackfriars, London, E.C., for the purpose of considering the following resolution:—

> That this meeting desires to express its regret that the Pharmaceutical Society has not yet taken any effective step to make by-laws under the powers conferred by S. 4 of the Pharmacy Act, 1908, relative to the registration of those holding the assistants' certificate and others as pharmaceutical chemists, and respectfully begs the Society of Apothecaries to use its best endeavours to see that the intention of the legislature in this respect is carried out without further delay.

All members and others holding the Hall certificate are invited to attend and support the resolution. The clerk to the society, Mr. A. Mowbray Upton, and Dr. F. S. Toogood will address the meeting.

MONMOUTHSHIRE WATER-SUPPLY.—The difficulties which are connected with the water-supply of colliery districts are dependent mainly upon two factors. The increasing number of inhabitants on the one hand necessitates a larger supply, and, on the other hand, the local supply available is decreased owing to the mining operations. Sooner or later, therefore, it is found necessary to go quite outside the area of the coal-field to obtain a sufficient and suitable supply. These factors are prominently in evidence in the western valleys of Monmouthshire, so that a scheme is in contemplation to construct a reservoir capable of holding over 300,000,000 gallons in Brecknockshire and to convey the water to the Monmouthshire valleys. Already a joint outfall sewer is in course of construction for the colliery towns in the western valleys, so that there ought not to be much difficulty in providing a joint water-supply for the same district. The sparse population of Brecknockshire renders the mountainous parts of the county admirable gathering-grounds for water-supplies, and although large tracts are already reserved for the Cardiff and Merthyr corporations

and by the Aberdare district council, there are still left many excellent catchment areas for the supply of other districts.

THE medical officer of health of Barnstaple (Devon) in a report states that about 90 per cent. of the school children in that town require treatment for their teeth.

MEDICAL MAGISTRATES.—Dr. W. F. Crosskey, of Lewes, has been placed on the commission of the peace for the county of Sussex.—Mr. Jamieson Boyd Hurry, M.D. Cantab., D.P.H., has been appointed to the commission of the peace for the borough of Reading.

"CHURCH AND MEDICINE" AT GOLF.—An interesting golf match took place recently at Long Ashton, near Bristol, between teams representing "Church and Medicine." It resulted in an easy win for the medical men, who scored 10 points against 2½ by the clergy.

THE OGSTON TESTIMONIAL.—The committee in charge of the testimonial to Professor Ogston desires to intimate that members of the medical profession wishing to contribute should send their subscriptions to the honorary secretary, Dr. Mackenzie Booth, 1, Carden-place, Aberdeen, at an early date, as the subscription list must soon close.

PRESENTATION TO A MEDICAL PRACTITIONER.—On Oct. 8th, at Kingswood, near Bristol, Mr. C R. Vevai, L.R.C.P. & S. Edin., L.F.P.S. Glasg., was presented with a case of surgical instruments and an address as a mark of respect and esteem on the occasion of his departure for Bombay.

SOUTH-WEST LONDON MEDICAL SOCIETY.—The first meeting of the session was held on Oct. 13th at the Bolingbroke Hospital. Dr. M. Mackintosh read an interesting and amusing paper on "Errors in Diagnosis." The President, Dr. L. S. McManus, and several members joined in the discussion which followed.

THE SEWERAGE OF YEOVIL (SOMERSET).—The Yeovil town council has already spent about £40,000 upon sewerage and sewage works for the town, but the results have been very unsatisfactory. The Local Government Board has now sanctioned the borrowing of £27,500 for the purpose of reconstructing the sewerage works.

MEDICO-LEGAL SOCIETY.—The next meeting of this society will be held in the rooms of the Medical Society of London, 11, Chandos-street, Cavendish-square, W., on Oct. 26th, at 8.15 P.M., when the presidential address will be given by Sir John Tweedy, and Dr. F. Graham Crookshank will read notes on the post-mortem examination of bodies found in the river.

IN response to a request by the Secretary of Public Health and Charities of the Republic of Cuba the Asylums Committee of the London County Council has granted Mr. T. S. Logan, assistant medical officer of the Epileptic Colony, 12 months' leave of absence without pay in order that he may assist in the remodelling and reorganisation of the State Asylum for the Insane in Mazorra, Cuba.

THE ROYAL INSTITUTE OF PUBLIC HEALTH.—Last Tuesday a course of 13 lectures was started at this institute. The course deals with elementary anatomy, physiology, home nursing, the care of children, school sanitation, infectious disease, and domestic and public hygiene, and has been arranged with a view of assisting candidates wishing to qualify for the positions of health visitors, school nurses, and the like. The lectures are also open to women students not intending to enter for the examination. The lectures will be continued on Tuesdays and Fridays at 7 P.M. at 37, Russell-square, W.C. The fee for the course is 1 guinea.

MALAGA AS A WINTER RESORT.—In his annual report, just received at the Foreign Office, Mr. Staniforth, the British Consul, writes: "The excellence of the climate of Malaga is becoming better appreciated, and a larger number of British visitors winter here every season. It is unfortunate that Malaga is not better known for its climatic conditions, which are unsurpassed at any winter resort. There is a demand in Malaga for a really good hotel. The British visitor at present is obliged to put up at Spanish boarding-houses, the only good English family *pension* being usually full. A British company might find it to its interest to study the matter."

Parliamentary Intelligence.

HOUSE OF LORDS.

WEDNESDAY, OCT. 13TH.

Asylum Officers' Superannuation Bill.

Lord MONK-BRETTON moved the second reading of the Asylum Officers' Superannuation Bill, which is designed to provide for superannuation allowances to officers and servants employed in public asylums for the insane in Great Britain and Ireland. He stated that asylum officers and servants would be under an obligation to contribute towards the pensions. He also announced that in committee he would propose an amendment that pensions might be made at the discretion of the local authority, even although the worker had not completed the necessary ten years' service nor had reached the required age of 60 years. He said, further, that the county councils had been circularised in order to obtain their views on the Bill, but very few objections had been forthcoming.

Lord BELPER said that many of the county councils were anxious that the Bill should be adoptive. The objections to it were wider spread than the noble lord, who proposed the second reading, seemed to realise. It would likely create a considerable charge on the rates, and the ratepayers' position should be fully considered. In his opinion the further consideration of the Bill should be postponed until next session, in order that it might be more fully discussed in the country by all those who would be affected by it, and a better Bill ultimately brought forward.

The Archbishop of CANTERBURY warmly supported the second reading. The principle of the Bill was indisputably right, and in his opinion those who undertook the care of the insane in asylums should be relieved from all anxiety as to their position when their health had been worn out.

The LORD CHANCELLOR remarked that surely their lordships would give the Bill a second reading. It had not been discussed in the House of Commons because there was no opposition to it there. He mentioned that the Commissioners in Lunacy were entirely favourable to the granting of superannuation allowances on a fixed scale to asylum officers. The service was a difficult one, and it was important to obtain for the care of the insane the best and most skilled attendants who would not be tempted to go away to some other occupation.

The Earl of HALSBURY argued that asylum officers and servants were entitled to receive pensions, and he warmly supported the Bill.

The Bill was read a second time.

HOUSE OF COMMONS.

MONDAY, OCT. 18TH.

Assistant Surgeons in India.

Mr. HAZLETON asked the Under Secretary of State for India whether the senior assistant professor at the Medical College, Madras, and the senior assistant surgeon at the General Hospital, Madras, were Eurasian military assistant surgeons lent to the civil medical department; whether he could state their medical qualifications and salaries, with the salaries of the civil assistant surgeons under them; and whether it was proposed to open these posts to well-qualified Indians.—The MASTER OF ELIBANK furnished the following written reply: It appears from the Madras Civil List that the two officers mentioned are military assistant surgeons; the Secretary of State has no information as to whether they are Eurasians, or as to their medical qualifications; their total emoluments are respectively Rs. 575 and Rs. 255 a month; the civil assistant surgeons in the Medical College, who hold appointments of equal rank, draw either Rs. 250 or Rs. 200 a month. As was stated in reply to a question on March 2nd, the Secretary of State has no reason to suppose that duly qualified Indian assistant surgeons will not be held eligible for these posts in the event of vacancies occurring.

TUESDAY, OCT. 19TH.

The Reported Case of Beri-beri in Ireland.

Mr. CONOR O'KELLY asked the Vice-President of the Department of Agriculture (Ireland) whether his attention had been called to the fact that a Norwegian named Obsen, employed at the whaling station on Inishkea Island, in the county of Mayo, was recently admitted to the local hospital in Belmullet, and was certified by the hospital doctor to be suffering from beri-beri; and, if so, is he in a position to state the causes that led to the outbreak of this disease.—Mr. T. W. RUSSELL replied: The department have ascertained that a Norwegian sailor employed in a steamer catching whales off the Mayo coast was admitted to Belmullet Infirmary on Sept. 11th, and on the 12th he was transferred to the Fever Hospital. He was discharged as cured on Sept. 21st. He was afterwards admitted to the Leith Hospital in Scotland, where he died from inflammation of the heart. No traces of beri-beri were observable.

Tuberculosis in the Public Services.

Mr. SUMMERBELL asked the Prime Minister whether he was aware that during the past ten years 3286 men had been discharged from the Army, 2673 from the Navy, and 1057 men and women from the Post Office, in all 7016 persons, suffering from tuberculosis; that no provision had been made by the Government for the care of such invalids or the prevention of the spread of the disease; and whether, in view of the efforts made by the Government, in the shape of legislation and other measures, to check the ravages of this disease, he was prepared to take action with a view of making provision for the proper treatment of all such cases in the future.—Mr. HOBHOUSE (on behalf of Mr. ASQUITH) answered: I understand that the figures stated in the first part of the question are correct. In answer to the remainder of the question, I have nothing to add to the answer given by the Prime Minister on Nov. 11th, 1908.

WEDNESDAY, OCT. 20TH.

Medical Examinations of London University.

Sir WILLIAM COLLINS asked the Prime Minister whether he had received any communications from or on behalf of the medical schools of London in regard to the standard of the medical examinations for degrees of London University; and whether he would state the nature of such communications, and what action, if any, he proposed to take

in regard to them.—Mr. ASQUITH wrote in reply: I have received communications from the delegates of the London medical schools and other bodies of the character referred to by my honourable friend, and I have forwarded them to the President of the Royal Commission on the London University.

BOOKS, ETC., RECEIVED.

ADLARD AND SON, London.

A Guide to the Study of the Specimens in the Sections of Obstetrics and Gynæcology in the Museum of St. Bartholomew's Hospital. By Herbert Williamson, M.A., M.B., M.R.C.P., and Reginald Jamison, M.A., M.B., F.R.C.S. Price 5s. net.

ARNOLD, EDWARD, London.

A System of Clinical Medicine. By Thomas Dixon Savill, M.D. Lond. Second edition. Revised by the Author, assisted by Frederick S. Langmead, M.D. Lond., and Agnes F. Savill, M.A. St. And., M.D. Glasg. Price 25s. net.

BAILLIÈRE, TINDALL, AND COX, London. (BRENTANO, Paris.)

The Morphia Habit and its Voluntary Renunciation. With Notes and Additional Cases. By Oscar Jennings, M.D. Paris. Price 7s. 6d. net.

BAILLIÈRE, TINDALL, AND COX, London.

Cows, Cow-Houses and Milk. By G. Mayall, M.R.C.V.S. Price 2s. 6d. net.

BOHN, F. (De Erven), Haarlem. (FISCHER, GUSTAV, Jena.)

Die Asthenie und die Lage-Anomalien der Weiblichen Genitalien. Von Dr. P. C. T. van der Hoeven. Price M. 3.

CHATTO AND WINDUS, London.

Astronomical Curiosities, Facts, and Fallacies. By J. Ellard Gore, Member of the Royal Irish Academy, Fellow of the Royal Astronomical Society. Price 6s. net.

CHURCHILL, J. AND A., London.

Materia Medica, Pharmacy, Pharmacology, and Therapeutics. By W. Hale White, M.D. Lond., M.D. Dub. Hon. Eleventh edition. Price 6s. 6d. net.

A Text-book of Experimental Physiology. By N. H. Alcock, M.D., D.Sc., and F. O'B. Ellison, M.D. With a Preface by E. H. Starling, M.D., F.R.C.P., F.R.S. Price 5s. net.

Sight-testing Made Easy. By W. Wright Hardwicke, M.D. St. And., M.R.C.P. Edin. Price 2s. 6d. net.

CORNISH BROTHERS, LIMITED, Birmingham.

Contributions to the Study of Rectal Disease. By F. Victor Milward, B.A., M.B., B.C. Cantab., F.R.C.S. Eng. Price 2s. net.

DENTAL MANUFACTURING CO., LIMITED, London.

Notes on the Treatment and Filling of Teeth. By William Cass Grayston, L.D.S. Third edition. Price 7s. 6d. net.

FISCHER, GUSTAV, Jena.

Atlas der Menschlichen Blutzellen. Von Dr. Artur Pappenheim. Zweite (Schluss-) Lieferung. Price, M.30.

Lehrbuch der Protozoenkunde. II. Auflage der "Protozoen als Parasiten und Krankheitserreger." Von Dr. F. Doflein. Price, paper, M.24; bound, M.26.50.

Praktische Anleitung zur Ausführung des biologischen Eiweiss-differenzierungsverfahrens, mit besonderer Berücksichtigung der forensischen Blut- und Fleischuntersuchung, sowie der Gewinnung präzipitierender Sera. Von Prof. Dr. P. Uhlenhuth und Dr. O. Weidanz. Price M.6.50.

Handbuch der Gesamten Therapie. In Sieben Bänden. Herausgegeben von Dr. F. Penzoldt und Dr. R. Stintzing. Vierte umgearbeitete Auflage. Sechste Lieferung. Price M. 4 50.

Vorlesungen über chirurgische Infektionskrankheiten. Von Dr. Th. Kocher und Dr. E. Tavel. Erster Teil: Die Streptomykosen. Price M.6.

Das Lymphgefasssystem. Von Dr. Paul Bartels. Price M.12

Einführung in die Hydrotherapie und Thermotherapie. Von Prof. Dr. Julius Strasburger. Price, paper, M.6; bound, M.7.

Die Normalen Asymmetrien des menschlichen Körpers. Von Prof. Dr. E. Gaupp. Price M. 1.50.

FROWDE, HENRY, and HODDER AND STOUGHTON, London.

Oxford Medical Publications. Infectious Diseases. By Claude Buchanan Ker, M.D.Ed., F.R.C.P. Ed. Price 20s. net.

Gall-stones, their Complications and Treatment. By A. W. Mayo Robson, D.Sc. Leeds, F.R.C.S. Eng., and P. J. Cammidge, M.D. Lond. Price 5s. net.

Oxford Medical Publications. Introduction to Practical Chemistry. By A. M. Kellas, B.Sc. Lond., Ph.D. Heidelberg. Price 3s. 6d. net.

GREVEL, H., AND Co., London.

Chemistry in Daily Life. Popular Lectures. By Dr. Lassar-Cohn. Translated by M. M. Pattison Muir, M.A. Fourth edition, revised and augmented. Price 6s.

HEINEMANN, WILLIAM, London.

Why Worry? By George Lincoln Walton, M.D. Price 2s. 6d. net.

Self Help for Nervous Women. Familiar Talks on Economy in Nervous Expenditure. By John K. Mitchell, M.D. Price 2s. 6d. net.

HEYWOOD, JOHN, LIMITED, Manchester and London.

A Handbook of Venereal Diseases. By A. C. Magian, M.D., B.Ch. Vict. Price 3s. 6d. net.

HODGE, WILLIAM, AND Co., Edinburgh and Glasgow.

Construction, Equipment, and Management of a General Hospital. By Donald J. Mackintosh, M.B., M.V.O. Price 10s. 6d. net.

HUMPHREYS, ARTHUR L., London.

Masques and Phases. By Robert Ross. Price 5s. net.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

ALLAN, HERBERT WILLIAM, L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer of Health of Wells (Somerset).

ALLAN, KENNETH BRUCE, M.B., B.S. Durh., has been appointed Assistant House Surgeon at the Norfolk and Norwich Hospital.

BERGIN, W. MARMADUKE, M.B., B.S. Lond., F.R.C.S. Edin., has been appointed Assistant Surgeon to the Royal Eye Hospital, Southwark.

COLLIER, JAMES, M.D., F.R.C.P. Lond., has been appointed Honorary Physician to the Royal Eye Hospital, Southwark.

COLLINS, Sir W. J., M.P., M.D., M.S. Lond., F.R.C.S. Eng., has been appointed Honorary Surgeon to the Royal Eye Hospital, Southwark.

DODDS, H. BONAR, M.D. Edin., has been appointed District Medical Officer at St. Vincent, British West Indies.

FRASER, FORBES F.R.C.S. Eng., has been appointed Honorary Surgeon to the Royal United Hospital, Bath.

HENDRIKS, C. M., M.B. Durh., M.R.C.S., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Bicester District of the county of Oxford.

JUDAH, D., M.B., B.S. Lond., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

JUDE, F. J., M.B., Ch.M. Edin., has been appointed Government Medical Officer and Vaccinator at White Cliffs, New South Wales, Australia.

KING-EDWARDS, T. R., M.B., B.S. Dub., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Watlington District of the county of Oxford.

MCHARDY, M., F.R.C.S. Edin., has been appointed Honorary Consulting Surgeon to the Royal Eye Hospital, Southwark.

POLLARD, REGINALD, M.B. Durh., M.R.C.S. Eng., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

RICE, T. W., L.R.C.P. & S. Edin., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Mountmellick District of Queen's County, Ireland.

STARK, A. CAMPBELL, M.B., B.S. Lond., has been appointed Assistant Surgeon to the British Skin Hospital.

SWIFT, H., M.D. Cantab., M.R.C.S. Eng., has been appointed Honorary Physician to the Adelaide Hospital, South Australia.

TITTERTON, JOHN TARRATT, M.B., C.M. Edin., has been appointed Medical Officer for the Fifth District by the St. Germans (Cornwall) Board of Guardians.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ASTON UNION WORKHOUSE AND COTTAGE HOMES, Birmingham.—Resident Assistant Medical Officer. Salary £140 per annum, with apartments, rations, and washing.

BOURNEMOUTH, ROYAL NATIONAL SANATORIUM FOR CONSUMPTION AND DISEASES OF THE CHEST.—Resident Medical Officer. Salary £10 per month, with board, residence, and washing.

BRISTOL, COSSHAM MEMORIAL HOSPITAL, Kingswood.—House Surgeon.

BRISTOL ROYAL HOSPITAL FOR SICK CHILDREN AND WOMEN.—Assistant House Surgeon. Salary £50 per annum, with board, rooms, and attendance.

BRISTOL ROYAL INFIRMARY.—Resident Casualty Officer for six months. Salary at rate of £50 per annum, with board, lodging, and washing.

CANCER HOSPITAL, Fulham-road, London, S.W.—Assistant Anæsthetist. Salary 25 guineas per annum.

CARDIFF INFIRMARY (GENERAL HOSPITAL).—House Surgeon. Salary £60, with board and residence.

CENTRAL LONDON SCHOOL DISTRICT SCHOOL, Hanwell.—Resident Medical Officer. Salary £300 per annum, with unfurnished house, lighting, firing, water, milk, and washing.

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, S.W.—House Surgeon, unmarried. Salary £80 per annum.

CHICHESTER, WEST SUSSEX AND EAST HANTS GENERAL INFIRMARY AND DISPENSARY.—House Surgeon. Salary £90 per annum, with board, residence, and washing.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—Physician to Out-patients.

DUDLEY, GUEST HOSPITAL.—Senior Resident Medical Officer. Salary £100 per annum, with board, residence, attendance, and washing.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.—House Surgeon. Salary at rate of £75 per annum, with board and residence.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark Bridge-road, London, S.E.—House Physician for six months. Salary at rate of £60 per annum, with board, residence, and washing.

GLASGOW UNIVERSITY.—Additional Examiners in Zoology and Anatomy.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway-road, N.—Physician. Also Surgeon to the Ear and Throat Department.

HAMPSHIRE COUNTY COUNCIL.—Assistant County Medical Officer of Health. Salary £250 per annum, and allowances.

HANLEY EDUCATION COMMITTEE.—School Medical Officer (female). Salary £200 per annum.

HOSPITAL FOR EPILEPSY AND PARALYSIS AND OTHER DISEASES OF THE NERVOUS SYSTEM, Maida Vale.—Honorary Anæsthetist, also Honorary Dentist.

HULL, ROYAL INFIRMARY.—Casualty House Surgeon. Salary at rate of £60 per annum, with board and lodging.

INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY.—Junior House Surgeon. Salary £90 per annum, with residence, board, and washing.

LINCOLN.—Assistant Medical Officer of Health for six months. Salary at rate of £250 per annum.

LINCOLN COUNTY HOSPITAL.—Junior House Surgeon, unmarried, for six months. Salary at rate of £75 per annum, with board, residence, and washing.

LIVERPOOL ROYAL INFIRMARY.—Honorary Physician.

LIVERPOOL, STANLEY HOSPITAL.—Junior House Surgeon. Salary £80 per annum.

LONDON TEMPERANCE HOSPITAL, Hampstead-road, N.W.—Medical Registrar.

LONDON THROAT HOSPITAL, 204, Great Portland-street, W.—Assistant Surgeon and two Assistant Anæsthetists.

LOWESTOFT HOSPITAL.—House Surgeon, unmarried. Salary at rate of £100 per annum, with board, lodging, and washing.

MAIDSTONE, KENT COUNTY ASYLUM. — Fourth Assistant Medical Officer, unmarried. Salary £175 per annum, with quarters, attendance, &c.

MANCHESTER, NORTHERN HOSPITAL FOR WOMEN AND CHILDREN, Park-place, Cheetham Hill-road.—Honorary Surgeon for Children.

MARGATE, ROYAL SEA-BATHING HOSPITAL.—Resident Surgeon, as Junior for six months and as Senior for a like period. Salary at rate of £80 and £120 per annum respectively, with board and residence.

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Hampstead and Northwood, Middlesex.—Senior and Junior Resident Medical Officers. Salary £100 and £50 per annum respectively, with board and residence.

NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon, unmarried. Salary £160, with apartments, attendance, light, and fuel.

NOTTINGHAM GENERAL HOSPITAL.—Assistant House Physician. Salary £60 per annum, with board, lodging, and washing. Also House Surgeon. Salary £100 per annum, with board, lodging, and washing.

PARTICK, BURGH OF.—Medical Officer of Health. Salary £250 per annum.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL, Marylebone-road, N.W.—Resident Medical Officer for four months. Salary at rate of £60 per annum, with board, residence, and washing.

ROYAL LONDON OPHTHALMIC HOSPITAL, City-road, E.C.—Third House Surgeon. Salary at rate of £50 a year, with board and residence.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL, King William-street, Strand, W.C.—Pathologist and Curator. Salary £50 per annum. Also Assistant House Surgeon for six months. Salary £20, with luncheon and tea.

ST. BARTHOLOMEW'S HOSPITAL.—Surgeon.

ST. MARK'S HOSPITAL FOR FISTULA AND OTHER DISEASES OF THE RECTUM, City-road, E.C.—Three Clinical Assistants.

ST. MARY'S HOSPITAL, Paddington, W.—Assistant Physician to Outpatients.

STAFFORD, STAFFORDSHIRE GENERAL INFIRMARY.—Assistant House Surgeon. Salary £82 per annum, with board, residence, and laundry

STAMFORD HILL AND STOKE NEWINGTON CHARITABLE DISPENSARY, N.—Assistant Medical Officer. Salary £100 per annum, with board and residence.

STROUD GENERAL HOSPITAL.—House Surgeon. Salary £100 per annum, with board, lodging, and washing.

TEIGNMOUTH HOSPITAL, S. Devon.—House Surgeon. Salary £80 per annum, with board, lodging, and washing.

THROAT HOSPITAL, Golden-square, W.—Resident House Surgeon. Salary £75 per annum, with board, residence, and laundry.

VICTORIA HOSPITAL FOR CHILDREN, Tite-street, Chelsea, S.W.—House Surgeon for six months. Salary £30, with board, lodging, and laundry.

WAKEFIELD, CLAYTON HOSPITAL.—Senior House Surgeon, unmarried. Salary £120 per annum, with board, lodging, and washing.

THE Chief Inspector of Factories, Home Office, London, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Act at Longford, in the county of Longford; at Airdrie, in the county of Lanark; and at Lauder, in the county of Berwick.

Births, Marriages, and Deaths.

BIRTHS.

WATKINS.—On 15th October, at Stone-Legh, Newton-le-Willows, Lancashire, the wife of Harold E. Watkins, M.R.C.S. Eng., of a daughter.

MARRIAGES.

ODELL—MOORE.—On the 14th inst., at St. Mary Magdalene's, Torquay, by the Rev. Canon Ransford, M.A., Vicar of St. Paul's, Upper Norwood, assisted by the Rev. E. P. Gregg, M.A., Vicar of the parish, and the Rev. R. W. Odell, M.A., Vicar of St. Matthew's, Brighton, cousin of the bridegroom, William Odell, M.D., F.R.C.S., of Ferndale, Torquay, to Ruth Annie, younger daughter of Joseph Moore, Esq., of "Culross," Torquay.

SWANN—CASSELS.—At the Grand Hotel, Glasgow, on the 18th October, by the Rev. Thos. Currie, M.A., Langside-hill U.F. Church, assisted by the Rev. David H. Tweeddale, M.A., New Leeds U.F. Church, Alexander James Thompson Swann, M.B., Ch.M. Glasg., West African Medical Staff, Northern Nigeria, to Effie Jemima Cassels, L.R.C.P. & S. Edin., L.F.P.S. Glasg., elder daughter of A. B. Cassels, 12, Camphill-avenue, Langside.

DEATHS.

CLIBBORN.—At Bolton-gardens, W., suddenly, William Clibborn, M.D. T.C.D., late of Dorset House, Bridport.

Notes, Short Comments, and Answers to Correspondents.

EVERY MAN HIS OWN IMMUNISER.

A CORRESPONDENT has forwarded us a copy of *The Autocar* of Oct. 9th, in which there is an advertisement of an "influenza cure" that opens up a new and dangerous field of unqualified practice. It reads as follows: "Guard against influenza. Two inoculations of Flux the 'Flu' Cure taken now will render you immune from influenza and its attendant ills during the whole of the winter. It is a bacillus culture, prepared in one of the world's leading bacteriological laboratories. It causes no inconvenience to the user, but is death to any influenza bacillus which attempts to enter the system. Supplied in two forms, A Preventive, and B Curative. Case £1 1*s.* 0*d.* Extra tubes 8*s.* 6*d.* each. Proprietors—'Flux' Co., 100, Evering Road, N." In the middle of this text is a figure illustrating the "case" referred to, open and containing a glass phial labelled "skin anæsthetic," another labelled "vaccine," and beneath them a hypodermic syringe and needle. Such a flagrant abuse of a valuable method of treatment scarcely needs reprobation, for its danger is apparent. The proprietors of "Flux" advise their patrons to inject into themselves, with no kind of scientific control, a substance which, if they describe it accurately as a vaccine, is a remedy requiring the greatest skill and technical knowledge in its employment; but we can hardly believe that even the habitual supporters of unqualified practice will be such fools as to inoculate themselves with an unknown stuff. We have not seen the alleged vaccine and have no knowledge of its composition, but if the claim is true that it is supplied by a "leading bacteriological laboratory" the person supplying it should certainly be asked for an explanation by the responsible directors of that institution. We do not remember a similar exploitation of modern science, although we have been accustomed to some fairly strong claims from unqualified persons. The advertisement should serve as a warning to all laboratories preparing vaccines for responsible firms to take proper precautions as to the ultimate destination of their products.

PREVAILING DISEASES IN BRAZIL.

Mr. Cheetham, Secretary of the British Legation at Rio de Janeiro, in his annual report just received at the Foreign Office, states that the year 1908 was marked by a very serious epidemic of small-pox in Rio de Janeiro, about 6130 deaths occurring in the four months from June to October, and the total of deaths for the year from this cause alone amounting to 8800. The majority of victims were of negro extraction and to a marked degree persons who had neglected vaccination, though every convenience for it was offered by the authorities. Small-pox, it may be stated, is more or less endemic in the cities of Rio de Janeiro, Bahia, Pernambuco, and Pará, and this year there was an outbreak in Maranhão. Though the heat of Rio is often excessive, the climate is salubrious and the yellow fever of former years has, to all appearances, been practically stamped out. This success is due to the exertions of a department organised by Dr. Oswaldo Cruz, which for some time past has been engaged in scientific sanitary work, including the systematic destruction of mosquitoes of the yellow-fever transmitting variety. The "malaria-transmitter" must continue to be plentiful in the marshy outlying districts for many years to come. Similar measures have been taken in Santos with beneficial results, the health of both cities having entirely changed during the last few years and sanitary conditions no longer inspiring the dread which they formerly did. In the case of Santos it was largely owing to the draining and reclaiming of pestilential land in connexion with the dock works that the health of the city was so greatly improved. Of the more important Brazilian ports, Bahia, Manãos, and Pará are the only ones now suffering from yellow fever, and in these places the native-born element is apparently immune. Malaria is common along the low-lying coast-belt and salt-pan district between Rio and the extreme south. It is also rife wherever there is marsh and along all the big slow-moving rivers. The Amazon basin is affected throughout and in the upper waters is undeniably bad, more noticeably perhaps in the Madeira-Mamoré and Acre districts, where the railroad workers and rubber collectors suffer intensely. Mosquitoes abound in these parts in myriads, and the mortality is sufficient to produce alarm in the traveller, though it is to be doubted whether the malaria of Brazil anywhere is of so virulent a type as is found in Africa and many other countries. Much of the mortality is due to bad food in sickness and improper care. Of other diseases tuberculosis is the most persistent in its ravages in the cities, being specially prominent in Rio and Pernambuco, where it shows a predilection for the black population. The official statistics of the mortality from this cause in Rio for the five years 1903-07 inclusive show an average of well over 3000 deaths per year, or exactly 4 per 1000 inhabitants. Though much is due to damp and predisposition, the majority of cases are the result of bad housing, bad food, want of air and care indoors, and dirty habits inseparable from the conditions of life prevailing among negroes, mulattos, and the lower classes generally. Dysentery shows

large in the returns from Pernambuco, and beri-beri in Bahia, the latter being, as ever, mysterious in its attacks in the north-east of Brazil. 10 per cent. of the deaths in St. Louis do Maranhão were from beri-beri in the year 1906. Bubonic plague may be regarded as endemic in most of the big cities, Rio, Bahia, Pernambuco, and Pará having each been infected in the course of 1908. There is, however, an unmistakeably steady decrease in this respect in the figures for Rio, which is able to show a decline of mortality from plague from 48·05 per 100,000 inhabitants (or a total of 360) in 1903 to 8·85 (or a total of 73) in 1907. Leprosy and goitre are still to be found in the State of Minas Geraes, the former sporadic and the latter confined to certain negro communities, due possibly to the water and the absence of lime, which is a feature in the geological formation of the greater part of Brazil. Diseases of the digestive organs figure largely throughout the country, these being due in a great measure to the consumption of raw or improperly cooked manioc flour. The negro is susceptible to many diseases to which the white man is, comparatively speaking, immune, and it is he who swells the death returns, his numbers becoming gradually decimated in consequence. The following comparisons, taken from the mortality returns of Rio for 1907, will be interesting in this respect:—

	Deaths per 1000.
Africans	168·96
Spanish Americans	26·25
Brazilians	21·31
British	9·08

The death-rate of many cities, moreover, is also raised by outside patients coming in from the country to the hospitals for treatment and having the misfortune to die there. The highlands of Brazil are extremely healthy, and much of the sickness which at present prevails will doubtless be avoided as time goes on and the prophylactic measures of the capital are extended. Medicinal plants are to be found distributed in the greatest variety throughout the whole of Brazil.

THE USE OF OXYGEN IN WHOOPING-COUGH.

IN very grave cases of whooping-cough, where danger is indicated by extraordinary violence and prolongation of the paroxysms with or without indications of commencing broncho-pneumonia, Dr. Weill, clinical professor of children's diseases in the University of Lyons, has been for some years in the habit of using inhalations of oxygen, and finds this treatment, though not invariably successful, far preferable to antipyrin or morphine. The violence of the paroxysms is lessened, though their frequency may not be diminished, the cyanosis disappears, and the child is far less exhausted during the intervals. He says that signs of broncho-pneumonia usually clear up under this treatment. Considerable quantities of oxygen, say 10 or 12 litres, should be given from the commencement of each paroxysm through a funnel-shaped mouthpiece, and if there is any pneumonia this dose should be repeated hourly even while the child is asleep. In one very alarming case where antipyrin and morphine had both failed the child's life was saved by the inhalation of from 400 to 500 litres of oxygen. These observations were published in *La Semaine Médicale* of Sept. 15th.

"DR. GUILLOTIN."

To the Editor of THE LANCET.

SIR,—A considerable quantity of documents and letters throwing fresh light on the French Revolution have been discovered in Paris in the course of recent years, material that was not known when Carlyle described the events of that social cataclysm. The instrument of death called with grim drollery the "National Razor" and the "Certain Cure for Headache" will be associated for all time with the name of a worthy and humane physician. In truth, Dr. Ignace Joseph Guillotin had nothing whatever to do with the machine which, in the words of Michélet, conferred on him "une gloire macabre et néfaste." Dr. Guillotin welcomed the Revolution and became a member of the Jacobin Club and of the Constituent Assembly. In the tribune of the latter body he proposed that in the new era that had dawned decapitation should always be the mode of inflicting the death penalty in France—meaning execution by the axe. Having made this proposal he quitted public life for ever and devoted himself to the exercise of his profession. The Assembly adopted Dr. Guillotin's proposal and gave it a sinister amplification. An ex-army surgeon, Dr. Antoine Louis, was asked to design an instrument which should cut off a man's head automatically and instantaneously. Dr. Louis, assisted by a German mechanician, promptly produced a decapitator fulfilling the prescribed conditions, and which was known for the first few months as "La Louisette," but so many French people bearing the prenomen or cognomen of Louis or Louise hastened to change their names that the Government decided that the new machine should be called "La Guillotine."

Dr. Guillotin lived in a small street leading out of the Rue St. Honoré and passed safely through the perils of the Terror, the Directory, and the Consulate, dying in 1814, aged 76. It is perhaps not without interest to state that some of the prescriptions written by Dr. Guillotin may be examined in Paris by the curious. For one patient he prescribed a mixture of "rhubarbe" and "sel de Glauber"—by no means a bad combination! According to the testimony of an intimate friend, he never ceased to deplore the hideous immortality thrust upon him.

Some of the records that have lately been disinterred from musty archives and the lumber room are exceedingly curious. A dyspeptic young man had received the sound medical advice to eat toast instead of ordinary bread, and to spare himself the inconvenience of attending at the baker's shop every morning at 4 A.M. he arranged to receive a week's supply of toast at one time. Unfortunately for him an unexpected domiciliary visit by the police revealed the presence of a quantity of toast in a cupboard—to be precise, there were 13 pieces. The discoverers were aghast with horror. Here was evidently an aristocrat endeavouring by subtle and diabolical means to create a famine in Paris. He was haled before the Revolutionary Tribunal on this charge, tried, convicted, and executed on the same day.

I am, Sir, yours faithfully,

Worthing, Oct. 18th, 1909. WATKIN W. JONES.

SOME SCIENTIFIC CATALOGUES.

THE Cambridge Scientific Instrument Company has recently published a revised edition of its catalogue dealing with the Cambridge Rocking Microtome, and anyone concerned in the equipment of a physiological or histological laboratory will do well to obtain the pamphlet. It contains a complete description of the rocking microtome, which has now been in use for nearly 25 years. The imbedding of tissues in paraffin to admit of their being cut into sections of but a few micromillimetres in thickness has been productive of a wealth of histological and embryological knowledge, and probably all who have worked with a Cambridge "rocker" will allow it the great merits of rigidity, simplicity of design, and accuracy of result, qualities which fit it well for general laboratory and class work. The design of the instrument is too well known to microscopists to need renewed description, and others who desire to become acquainted with it will be well advised to obtain the present catalogue from Cambridge. A list has also reached us from Messrs. H. F. Angus and Co., of 83, Wigmore-street, W., who supply all descriptions of accessories for microscopical work, including the many stains put up in the laboratory of Dr. G. Grübler of Leipzig. Another pamphlet before us comes from France, being issued by Mr. A. Helmreich, electrician, of Nancy. It describes an apparatus invented by Dr. Miramond de Larognette and described as a "radiateur photo-thermique," which is devised to apply light and radiant heat baths to any part of the body. The pamphlet gives a short account of the indications for this kind of therapy, and then proceeds to describe the apparatus which consists of a hollow metal drum bisected, the halves being hinged together so as to form two valves, which can be opened to admit the shoulder, arm, leg, hip, side of the thorax, or any other part of the body. In each valve are three electric lamps. If it is desired to apply heat to the abdomen or spine the valves are completely opened and the instrument laid flat against the body. The pamphlet is fully illustrated and the apparatus which it describes appears to be a useful and portable appliance for the administration of radiant treatment.

AN INTERESTING PHENOMENON.

To the Editor of THE LANCET.

SIR,—I find there are people who, on closing their ears carefully with their fingers, can receive *vocalisations* within their heads—directing, answering, or commenting. I should be glad to know the physiology and explanation of the phenomenon.

I am, Sir, yours faithfully,

Oct. 12th, 1909. GENERAL PRACTITIONER.

*** This observation is well known to otologists and appears to be due to unusual penetration and perception of sound. We do not know that the physiology of the occurrence has been made the subject of special study. An instrument is now made which enables observers to eliminate this source of error when testing the hearing, especially in cases of unilateral deafness.—ED. L.

MERCK'S ANNUAL REPORT.

WE have received a copy of E. Merck's annual report (1908, Vol. XXII.) of recent advances in pharmaceutical chemistry and therapeutics which is always worth having and keeping since it is a valuable source of reference to recent advances in therapeutics and pharmacology. Not the least advantage about it also is that the chapter and verse in regard to the original papers on the subject are given. We understand that medical men may obtain a copy gratis from the London office (16, Jewry-street, E.C.). The edition, however, is a limited one. The volume contains 348 pages of literary matter, and reading it is certain to repay the practitioner.

THE JUBILEE OF THE CRANLEIGH COTTAGE HOSPITAL.

IN our account of the Cranleigh Cottage Hospital (THE LANCET, Oct. 16th, p. 1164) the average duration of stay of patients for the period covered by the last annual report should have been printed as 23·3 days instead of 2·33 days.

T. M. will find in the Students' Number of THE LANCET (August 28th, 1909, p. 687) full information with regard to post-graduate work. Announcements are made in our columns from time to time when courses of lectures are delivered which are open to medical men free on presentation of their cards. In the same issue of THE LANCET, in

other sections, he will find the names of the dermatological consultants and officers at the metropolitan hospitals. The post-graduate work in London is assisted by the moderate fees of those who take out tickets, but individual hospitals seldom or never charge fees to qualified men who were once their students. With regard to the second question we must consult a veterinary surgeon.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

ROYAL SOCIETY OF MEDICINE, 20, Hanover-square, W.

MONDAY.
ODONTOLOGICAL SECTION (Hon. Secretaries—D. P. Gabell, E. B. Dowsett, J. Howard Mummery): at 8 P.M.
Paper:
Mr. A. Hopewell Smith: Case of Infective Disease of the Jaws Associated with Absorption of the Teeth.
Casual Communication:
Mr. F. Coleman: (1) Papillomata of the Uvula; (2) Exostoses of the Mandible; (3) The Torus Palatinus.
Presidential Address:
Mr. William Hern.

TUESDAY.
MEDICAL SECTION (Hon. Secretaries—A. M. Gossage, A. F. Voelcker): at 5.30 P.M.
Paper:
Dr. Robert Maguire: On Oxaluria and the Treatment of Calcium Oxalate Deposit from the Urine, with a Method for the Solution of Calcium Oxalate Calculus whilst in the Urinary Passages.

THURSDAY.
NEUROLOGICAL SECTION (Hon. Secretaries—E. Farquhar Buzzard, Wilfred Harris): at 8.30 P.M.
Presidential Address:
Professor Sherrington, F.R.S.

FRIDAY.
BALNEOLOGICAL AND CLIMATOLOGICAL SECTION (Hon. Secretaries—Septimus Sunderland, F. A. de T. Mouillot): at 6 P.M.
Presidential Address:
Dr. Leonard Williams: To Redress the Balance.
Paper:
Dr. Eyre: The Hygiology of Naples.

N.B.—Fellows of the Society are entitled to attend and to speak at all Meetings.

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish square, W.

MONDAY.—8.30 P.M., Dr. F. W. Hewitt: The Need for Legislation in Regard to Anæsthetics and the Lines upon which it should take place.

MEDICO-LEGAL SOCIETY, 11, Chandos-street, Cavendish-square, W.C.

TUESDAY.—8.15 P.M., Sir John Tweedy: Presidential Address.—Dr. F. G. Crookshank: Notes on the Post-mortem Examination of Bodies found in the River.

HUNTERIAN SOCIETY, 17, Finsbury-circus, E.C.

WEDNESDAY.—8.30 P.M., Clinical and Pathological Evening.

HARVEIAN SOCIETY OF LONDON, Stafford Rooms, Titchborne-street, Edgware-road, W.

THURSDAY.—8.30 P.M., Discussion on the Influence of Mind as a Therapeutic Agent (opened by Dr. C. Shaw).

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.

MONDAY.—5 P.M., Prof. S. G. Shattock: Adenoma and Papilloma. (Museum Demonstration.)

FRIDAY.—5 P.M., Prof. A. Keith: Specimens illustrating Malformations of the Abdominal Wall and Irregularities in the Fixation of the Viscera. (Museum Demonstration.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. T. P. Beddoes: Clinique (Skin). 5.15 P.M., Lecture:—Dr. D. Grant: Some Complications of Nasal Sinus Disease.

TUESDAY.—4 P.M., Dr. N. Pitt: Clinique (Medical). 5.15 P.M., Lecture:—Sir John Broadbent, Bart.: The Prognosis and Etiology of Mitral Incompetence.

WEDNESDAY.—4 P.M., Mr. M. Collier: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. C. Riviere: Notes on Tuberculin Treatment.

THURSDAY.—4 P.M., Sir Jonathan Hutchinson: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. F. J. Smith: On the Examination of the Person.

FRIDAY.—4 P.M., Mr. H. Tod: Clinique (Ear).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Lecture:—Surgical Registrar: Demonstration of Cases in Wards. 2 P.M., Medical and Surgical Clinics. Mr. Dunn: Diseases of the Eyes. 2.30 P.M., Operations. X Rays. 5 P.M., Lecture:—Mr. Baldwin: Practical Surgery.

TUESDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. 12.15 P.M., Lecture:—Dr. Pritchard: Practical Medicine. 2 P.M., Medical and Surgical Clinics. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. X Rays. Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr. Pritchard: Clinical Pathology.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Diseases of the Throat, Nose, and Ear. 12.15 P.M., Lecture:—Dr. G. Stewart: Practical Medicine. 2 P.M., Medical and Surgical Clinics. Mr. B. Harman: Diseases of the Eyes. 2.30 P.M., Operations. X Rays. Dr. D. Robinson: Diseases of Women. 5 P.M., Lecture:—Dr. Beddard: Medicine.

THURSDAY.—10 A.M., Lecture:—Surgical Registrar: Demonstration of Cases in Wards. 12 noon, Pathological Demonstration:—Dr. Bernstein. 2 P.M., Medical and Surgical Clinics. Mr. Dunn: Diseases of the Eyes. 2.30 P.M., Operations. X Rays. 5 P.M., Lecture:—Dr. Davis: Common Diseases of the Nasal Cavities and the Pharynx.

FRIDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. Medical Registrar: Demonstration of Cases in the Wards. 2 P.M., Medical and Surgical Clinics. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. X Rays. Dr. Abraham: Diseases of the Skin. Dr. D. Robinson; Diseases of Women. 5 P.M., Lecture:—Dr. G. Stewart: Peripheral Neuritis.

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Mr. B. Harman: Diseases of the Eyes. Dr. Davis: Diseases of the Throat, Nose, and Ear. 11.30 A.M., X Rays. 12.15 P.M., Lecture:—Dr. G. Stewart: Practical Medicine. 2 P.M., Medical and Surgical Clinics. 2.30 P.M., Operations.

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—2 P.M., Operations. 2.15 P.M., Sir Dyce Duckworth Medicine. 3.15 P.M., Mr. Turner: Surgery. 4 P.M., Mr. R. Lake: Ear and Throat. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat.

TUESDAY.—2 P.M., Operations. 2.15 P.M., Dr. R. Wells: Medicine. 3.15 P.M., Mr. Carless: Surgery. 4 P.M., Sir M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.

WEDNESDAY.—2 P.M., Operations. 2.15 P.M., Dr. F. Taylor: Medicine. 3.30 P.M., Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye. 3.30 P.M., Special Lecture:—Mr. Cargill: Some Frequent Mistakes in Ophthalmic Diagnosis.

THURSDAY.—2 P.M., Operations. 2.15 P.M., Dr. G. Rankin: Medicine. 3.15 P.M., Sir W. Bennett: Surgery. 4 P.M., Dr. Sale-Barker: Radiography. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat. 2.30 P.M., Special Lecture:—Dr. Rankin: Three Recent Cases of Pleurisy.

FRIDAY.—2 P.M., Operations. 2.15 P.M., Dr. R. Bradford: Medicine. 3.15 P.M., Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin. 3.15 P.M., Special Lecture:—Mr. McGavin Some Points in the Surgical Treatment of Chronic Intestinal Obstruction.

SATURDAY.—2 P.M., Operations. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Clinics:—10 A.M., Surgical Out patient (Mr. H. Evans). 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Nose, Throat, and Ear (Mr. H. W. Carson). 4.30 P.M., Medical In-patient (Dr. A. J. Whiting).

TUESDAY.—Clinic: 10 A.M., Medical Out-patient (Dr. A. G. Auld). 2.30 P.M., Operations. Clinics:—Surgical (Mr. W. Edmunds); Gynæcological (Dr. A. E. Giles). 4.30 P.M., Demonstration:—Dr. Meachen: Selected Skin Cases.

WEDNESDAY.—Clinics:—2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Skin (Dr. G. N. Meachen); Eye (Mr. R. P. Brooks). 3 P.M., X Rays (Dr. H. Pirie).

THURSDAY.—2.30 P.M., Gynæcological Operations (Dr. A. E. Giles). Clinics:—Medical Out-patient (Dr. A. J. Whiting); Surgical (Mr. Carson). 3 P.M., Medical In-patient (Dr. G. P. Chappel). 4.30 P.M., Lecture:—Mr. H. W. Carson: Perforated Gastric Ulcer.

FRIDAY.—10 A.M., Clinic:—Surgical Out-patient (Mr. H. Evans). 2.30 P.M., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld); Eye (Mr. R. P. Brooks). 3 P.M., Medical In-patient (Dr. R. M. Leslie).

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.

MONDAY.—4 P.M., Lecture: Dr. G. Holmes: Clinical Anatomy of the Nervous System—The Anatomy of the Medulla Oblongata and Pons Variolii.

TUESDAY.—3.30 P.M., Clinical Lecture: Dr. Batten: Myatonia Atrophica.

THURSDAY.—4 P.M., Lecture:—Dr. G. Holmes: Clinical Anatomy of the Nervous System—The Anatomy of the Medulla Oblongata and Pons Variolii. The Cranial Nerves.

FRIDAY.—3.30 P.M., Clinical Lecture:—Dr. Batten: Myatonia Congenita and its Relations to the Myopathies.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, Leicester-square, W.C.

THURSDAY.—6 P.M., Chesterfield Lecture:—Paratuberculides (due to Tuberculous Toxins)—I., Macular; II., Papular; III., Pustular; IV., Pigmentary.

WEST-END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, 73, Welbeck-street, W.

MONDAY.—3 P.M., Clinical Demonstration: Dr. H. Campbell.
TUESDAY.—5 P.M., Clinical Demonstration:—Dr. J. Mackenzie.
WEDNESDAY.—3 P.M., Clinical Demonstration:—Dr. F. Palmer.
THURSDAY.—3 P.M., Clinical Demonstration:—Dr. T. D. Savill.
FRIDAY.—2 P.M., Clinical Demonstration:—Dr. P. Stewart. 5.30 P.M., Clinical Demonstration: Dr. B. Macnamara.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn road, W.C.

TUESDAY.—3.45 P.M., Lecture:—Dr. Atkinson: Pharynx and Nasopharynx.
FRIDAY.—3.45 P.M., Lecture:—Dr. Abercrombie: Pharynx and Nasopharynx.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (25th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M.), St. Mark's (2.30 P.M.).

TUESDAY (26th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College 2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M., Ophthalmic, 2 P.M.), Tottenham (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

WEDNESDAY (27th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan 9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M., Dental, [illegible].M.), Tottenham (Ophthalmic, 2.30 P.M.), West London (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

THURSDAY (28th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (Gynæcological, 2.30 P.M.), West London (2.30 P.M.), Central London Throat and Ear (Minor, (9 A.M., Major, 2 P.M.).

FRIDAY (29th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.) Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.), Central London Throat and Ear (Minor 9 A.M., Major, 2 P.M.).

SATURDAY (30th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M.), West London (2.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

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(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Oct. 21st, 1909.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Oct. 15	29·80	S.W.	...	67	61	51	57	58	Raining
,, 16	29·70	S.W.	0·19	65	62	58	59	60	Overcast
,, 17	29·51	S.W.	0·13	73	63	60	59	60	Raining
,, 18	29·69	S.W.	0 08	71	62	56	57	58	Cloudy
,, 19	30 00	WSW	...	101	63	54	55	56	Overcast
,, 20	29·86	S.W.	...	67	61	55	55	58	Cloudy
,, 21	29 91	WSW	0·29	98	59	53	52	53	Fine

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